DEPARTMENT OF CHEMICAL & PROCESS ENGINEERING

University of Strathclyde Engineering

M.Eng

Chemical & Process Engineering

18530 Chemical Engineering Project

Handbook

2016-17

Contents

1 Introduction, Timetable & Marking Schedule

1.1 Introduction

The MEng Chemical & Process Engineering incorporates a mandatory project which involves a minimum 12 week project in the second semester of the fifth year of the course. The project can be conducted at companies, at Erasmus Universities or in the Department, in the UK or abroad. In this document, they are referred as Industrial, Erasmus, and In-house project, respectively.

This project is more than a module in the MEng degree. It is a unique opportunity to broaden your engineering experience, to apply your University education in a professional and to develop professional and transferable skills that are highly regarded by employers. How much you get from this opportunity depends on you to a large extent. You should have an active role in your project, be a good observer, look for opportunities to learn and define your learning objectives early in the project. Improving your technical skills is important, but so it is to develop soft skills such as communication, teamwork or interpersonal skills. Learn by the positive but also by the negative: when you succeed in a difficult task, identify the reasons for success and build on them; if you are faced with a situation that does not go according to what you would expect or where you have failed, afterwards think about how you would approach it with the hindsight you now have.

This guide was designed to give you practical information and to help your understanding what is expected from you during the project and what you can expect from the organisation and from the Department. Remember that while in project you are a representative of the Department of Process & Chemical Engineering at the University of Strathclyde. Be enthusiastic, positive and professional.

A word on report writing, yes, you will have to write a report and submit a report of your work. This means that if you have worked hard and efficiently in your project but if you submit a poor report you will not have a good assessment. This will always be the case in your professional life. Your ideas, your knowledge, your technical skills are important, but much will be lost if you do not take the time and the effort to communicate them effectively to your peers and supervisors. You need to show that using the analytical thinking and ability to structure concepts and results that you acquired in your studies, you can write excellent technical reports.

Note that 18530 covers projects at companies, at Erasmus Universities or in the Department, so the word “organisation” in the text refers all three possible locations.

We hope you will make the most of your project, and are successful in the last part of your journey to MEng.

1.2 Whose involved in your Project (S, P, A)

- **S**: The **Student**
- **P**: The **Project Supervisor** based at the location of your project
- **A**: The **Academic Supervisor** based in the Department of Chemical & Process Engineering

Note: For In-house projects, the project supervisor and academic supervisor may be the same person and will carry out both duties.

1.3 Timetable

The Project for the 18530 Chemical Engineering Project constitutes half the credits of the final year of your studies in the MEng (Chemical & Process Engineering). The minimum duration is 12 weeks and the project starts at the beginning of the second semester. See Section 1.5 (Project Timetable) for more information.

If the start date needs to be delayed because of a justifiable reason, e.g. job interviews, the Project and Academic supervisor will need to be informed to agree a revised start date. Delay by more than a week will need strong reason. The time delayed at the beginning can't be added to extend any deadline set in Section 1.5, therefore it will reduce the time allowed for finishing project write-up. You will be expected to work the University Easter study break and only take the normal public holidays.

1.4 Submissions

There are various reporting and assessment submission to be made via Myplace during the project. These are all mandatory and deadlines must be met. Not meeting these deadlines and conditions means that the project will not be seen as complete.

1.5 Project timetable (For Semester 2 including the Easter Break and Exam Period)

Week	*Week commencing*	*Events*
0	9 January	Earliest Industrial Project start date In-house Project briefing and Safety induction (if required)
1	16 January	All projects should commence this week. Student should • **Provide Section 3 and Form P1 (Section 5.3 & 5.6) to Project supervisor.** • Email contact details (see Section 2.2) to Academic Supervisor
2	23 January	Latest Start Date for all types of projects • **Submit Forms S1 & S2 (Section 5.1 & 5.2) to Myplace by 5pm, 27 January**
3	30 January	**Academic Supervisor Visit or Contact Period.** Student should • Arrange a Contact meeting amongst the student, Project & Academic Supervisor. This can be by visit, telephone/video conference (check with Academic Supervisor which method will use) • **Academic Supervisor complete and return Form A1 (Section 5.4) after the meeting to Student. Student then submit the form on Myplace**.
4	6 February	
5	13 February	
6	20February	
7	27 February	
8	6 March	
9	13 March	
10	20 March	
11	27 March	**Student submits a draft report to Myplace by 9am Monday 27th March**. • Academic Supervisor will return comments on Form A1 (Section 5.4) on structure and deficiencies in sections relevant to the marking criteria
12	3 April	
13	10 April	
14	17 April	Project completion date is no later than 21 April. • **Project Supervisor complete Form P1 (Section 5.3) and return to Student. Student then submit the form on Myplace.** • For an In-house project, Project Supervisor will organise a full technical presentation to complete the P1 assessment.
15	24 April	**Submit project report by midday, Wednesday 26th April.** • **Submit a MS Word document of the report or at least the main body.** A full copy as an additional copy or a file containing appendices in PDF form is acceptable.
16	1 May	**Submit six slides of MS PowerPoint Presentation on Myplace by 5.00pm, Monday 2nd May**
17	8 May	**Presentations are during 10th-12th May.** Final mark will be agreed between Academic Supervisor and a 2nd marker, and the marked form A2 (Section 5.5) will be posted on Myplace

Note: Forms S1, S2, and P1 require signatures, these may be scanned to PDFs and added to Myplace

1.6 Project Assessment

The learning objectives of the 5th year project are:

- a demonstration of subject based knowledge and skills
- assisting the student's personal development
- broaden the student's understanding of working in a commercial or academic environment

The assessment of the project will be based on the following possible outcomes:

- Enhance the student's personal development during the project
- Provide the student with the opportunity to identify how and where the value of the work undertaken impacts on the organisation's activities
- Provide reflection on how the previous activities will assist the student in developing their own professional practice
- Demonstrate the application of Chemical Engineering knowledge gained through study or in the project
- The Student's own reflections on his/her learning

1.7 Marking Guidelines

1. **A Project Report:** 80% of final marks (see Form A1 for marking guidelines).

A report of maximum of 12,000 words plus appropriate technical appendices which demonstrates description of project(s); chemical engineering skills used; project(s) outcomes; impacts of the project on the organisation.
This will be awarded after a project presentation to Academic Supervisor and another academic/teaching staff acted as a double marker. Students will be expected to present a précis of the report and answer questions on the content of your report and presentation.

Note: The double marking mechanism eliminates any bias in any guidance given during the project and also provides standardisation of marking across all projects.

2. **Project Supervisor Assessment:** 20% of final marks (see Forms P1 for marking guidelines).

This covers Student's project work activity and presentation of project work in the organisation/research team. The criteria include identifying evidence of the impact of the Student during the project, the student's work ethic and professional performance.

Note: All criteria mark levels can be adjusted in agreement between Academic/Project Supervisor. The student will be notified of this agreement.

Main contacts

Head of Department **Prof. Sudipta Roy** sudipta.roy@strath.ac.uk Phone 0141 548 2372

5th Year Co-ordinator **Dr. Miguel Jorge** miguel.jorge@strath.ac.uk Phone 0141 548 2825

18530 Projects Co-ordinator

Dr. Yi-Chieh Chen yichieh.chen@strath.ac.uk Phone 0141 548 5304

2 Duties of the Student

2.1 Role

- Respect of work ethics through a display of reliability and responsibility attitude to work.
- Observance of all Project rules and regulations and compliance with health and safety regulations in the work environment. (See Form S1)
- Due consideration of the interests of the organisation in particular in respect of all matters which are confidential.
- Understand the nature of the work being carried out and its relevance and significance in relation to the organisation's activities.
- Plan the efficient use of time and resources to meet work deadlines.
- Understand the team approach and the individual's role in it.
- Liaise effectively with superiors and peers.
- Maintain contact with Academic Supervisor during the project.
- Ensure that Academic Supervisor is aware of any problems related to the project write-up, the project, or any issues that you may have in the project environment when they occur
- Maintain a logbook and submit it to examination when required.
- Manage the reporting documentation as required to meet all submissions/deadlines

Since you are working on a project conceived by the organisation, it is your Project Supervisor who will have a key day-to-day role in the work. The Academic Supervisor is an academic overseer who monitors progress, provides advice on request, and acts as a technical sounding board. Much of this is general and secondary. The Project Supervisor will help you drive the project on an ongoing basis.

If you are completing an In-house project, your research supervisor is also your academic supervisor, whoever research supervision may be devolved to someone in the research team

2.2 Information to be supplied to the Department

Contact information

You are expected to provide the Department with the following information as soon as the project starts:

- Project Supervisor's name, title, position in the organisation, phone number and email address.
- Your phone number, email address and mailing address during the project period.

Furthermore, Form S1 & S2 must be provided within 2 weeks of starting your project via MyPlace as assignments.

Logbook

A logbook should be maintained and submitted for examination when required. It should be presented to the academic supervisor on request. Regularity of entries will depend, to a large extent, on the nature and variability of the experience being obtained. Sufficient detail should be recorded so that the material may be incorporated in the report.

The logbook is critical evidence of your work and project progress in case circumstances prevent you from submitting your final report. Any submission of mitigating circumstances/appeal will require this documentation to be complete up to the relevant date.

Confidentiality

Find out from your Project Supervisor if the project report and presentation needs to be confidential and let your academic supervisor know. We will restrict the circulation of the project report to your Academic Supervisor, a double marker from the department and external examiner, and we will then embargo release of the project write-up for a period of at least 5 years. You will still need to do a presentation but any confidential results can be left out. Also, let your Project Supervisor see and approve a copy of your presentation before you give it.

Oral presentation

The oral presentation to staff of Chemical & Process Engineering will take place in May. Each session is 20 minutes long and presentations should be no more than 10 minutes to allow time for questions. See Section 6 for guidelines on presentation skills. It is advisable to prepare the content of the presentation during the project period.

2.3 Health & Safety at Work

The University would be expected to demonstrate that it had done everything "reasonably practicable" to secure the student's health and safety while on project with the host employer. Thus the employer's responsibility is shared with the University, as well as with the student (who has a responsibility for his/her own safety and that of others).

Read the following material to ensure that you are clear on what is expected of you.

> This is an excerpt from The University and College Employers Association (UCEA)/Committee of Vice Chancellors and Principals (CVCP) document "Health and Safety Guidance for the Placement of HE Students" (1997) Pages 23-25.
>
> **Action to be taken in an emergency**
>
> Each employer has their own emergency instructions relating to particular parts of the organisation and buildings. There should be a notice in every building setting out the procedure to be adopted in case of fire.
>
> **This instruction should be studied and committed to memory.**
>
> There are certain points that apply to all emergency situations:
>
> You should commit to memory the standing orders for emergency action. You will have no time to read them in an emergency. **Remember**: you are expected to act in the spirit of the instructions. There is no substitute for common sense.
>
> The most important consideration at all times is human safety. **Remember**: if you become a casualty someone must rescue you, possibly at personal risk to themselves.

You should act quietly and methodically. You should not rush or attempt to pass others when leaving the scene of an emergency. If you have to telephone for assistance in an emergency, the following information must always be given:

- Who you are.
- Where you are: ie, the location and telephone extension from which you are telephoning.
- The nature of the emergency and what services are required.
- The exact location where assistance is required.

You should ensure that the message has been correctly received by asking for it to be repeated back to you. It is essential that the location is clearly defined. Local terminology should not be used because, for instance, “the research site” means very little to the Emergency Services. It is important always to give the correct name for the building and the street where it is located. If the postcode is known, that should be provided.

The Health and Safety at Work Act 1974 (HASWA)

The Act is based upon the concept of a general duty of care for most people associated with work activities. The specific aims are to:

- secure the health, safety and welfare of persons at work;
- protect persons other than persons at work against risks to health or safety arising out of, or in connection with, the activities of persons at work;
- control the keeping and use of explosive or highly flammable or otherwise dangerous substances and generally prevent the unlawful acquisition, possession and use of such substances;
- control the emission into the atmosphere of noxious or offensive substances.

Main Provisions of HASWA

There have been a number of Regulations, etc, since HASWA but fundamentally they only amplify the basic concepts contained within HASWA. Those provisions place various duties upon employers, employees and others. In brief, these are:

General Duties of Employers

- Employers are required, as far as reasonably practicable, to:
- ensure the health and safety and welfare of employees;
- provide safe plant and systems of work;
- ensure safe use, handling, storage and transport of articles and substances;
- provide information, instruction, training and supervision;
- maintain a safe place of work and safe means of access and egress.

General Duties of Employers to Employees

The effect is to make criminally enforceable the common law duty to take reasonable care for the safety of employees. This includes the requirement, as far as reasonably practicable, to ensure:

- employees know the risks;
- employees know the precautions;
- the precautions are available;
- employees know the precautions available.

No levy on employees is permitted for the provision of statutory protective equipment.

Employers also have legal responsibilities to persons other than employees, eg, visitors, the general public, contractors who may be affected by the employer's work activities.

Duties Towards the Customer

Duties of those who design, manufacture, import or supply and install articles or substances are to:

- ensure that they are safe and without risk to health;
- carry out tests, examination and research (or have it done on their behalf);
- provide adequate information regarding proper use, maintenance, etc;
- install or erect plant and equipment safely.

The duties can be discharged by a written undertaking from the supplier that they will take the necessary steps to ensure that the article or substance will be safe in use or while being cleaned, maintained, etc.

Duties of Employees

Employees must:

- take reasonable care for themselves and others;
- co-operate with the employer and use safety appliances;
- not recklessly and willfully interfere with safety appliances.

Written Safety Policies

Organisations (with 5 or more employees) must prepare and revise, when necessary, a written statement of their general policy towards health and safety at work setting out:

- the organisation – i.e., who is responsible;
- the arrangements – i.e., what is to be done?

Safety Representatives and Committees

Trade Unions may, in accordance with regulations, appoint safety representatives and ask for a safety committee. There is a duty on an employer to enter into consultation with representatives, whose functions and rights are prescribed by regulations.

The Management of Health and Safety at Work Regulations, (note- revised 1999)

There are a number of pieces of legislation which require specific risk assessments to be carried out in certain circumstances, for example, manual handling, the use of display screen equipment (mainly VDU screens) and the use of hazardous substances [The Control of

Substances Hazardous to Health Regulations (COSHH)]. The Host Employer is required, by law, to ensure that if you are in a position where any of these specific pieces of legislation apply, eg, if you are using a computer, if you are expected to carry loads or if you are exposed to any chemical or other substances hazardous to health, then a risk assessment must be carried out which details the control measures which need to be taken in the circumstances. Further, under the Management of Health and Safety at Work Regulations, 1992 (as amended 1999) there is a duty on the employer to carry out a risk assessment of **all** the risks (which are not already covered by specific legislation) to which their employees might be exposed while they are at work. Many risks can be covered by generic assessments which include specific controls, e.g., organisations' health and safety policies, individual areas' safety regulations, safe operating procedures, etc. However, there are many instances in industry and commerce, particularly in research, where specific risk assessments for the work you will be doing are required by law. In such circumstances these must be made known to you by the employer and you must ensure you work to the risk management controls identified as necessary by the risk assessment.

2.3.1 General Safety

Introduction

The prevention of accidents in laboratories, stores, workshops and all other places of work is a duty of every individual using or entering them. Ensuring the safety of others is as important as the avoidance of personal injury. You should make it your first task to become familiar with any special instructions issued for dealing with emergencies peculiar to the place in which they are working.

General Safety Rules

Eating, drinking, smoking and the application of make-up in laboratories or when handling or working with chemicals is prohibited. Smoking may also be prohibited in many other areas.

You should familiarise yourself with:

- the layout of the building;
- the location of fire-fighting extinguishers (if you have not been trained in their use do not attempt to use the extinguisher);
- ways to get out of the building in an emergency, which may be different to the way you came in;
- the siting of telephones, and first aid arrangements.

Remember: it may be too late to find out very much when an emergency actually happens.

If you have any queries on safety matters: consult your supervisor or safety representative.

2.3.2 Specific topics

Fire

- **General Information**

Most fires can be prevented by applying routine precautions, some of which are set out below. When a fire occurs, the principal hazard to people is the smoke that is generated and the cause of most deaths at fires is asphyxia by smoke. Fire doors in corridors and doors leading from kitchens, for example, are designed to retain the smoke to allow the remaining corridors to be used for evacuating the building. The walls of corridors have a specified fire resistance so that the fire can be contained in a small section of the building.

- **Means of Escape**

Ensure that rooms, passages, corridors and stairways are not obstructed and that corridor fire doors are kept closed. If a room contains an emergency exit, make sure that it is unobstructed so that it is immediately available for use in an emergency.

- **Fire/smoke-stop Doors**

Fire/smoke-stop doors may be installed throughout buildings so as to prevent smoke and hot toxic gases circulating along routes to safety. These doors must not be wedged or propped open. They must be kept closed at all times after access and egress has been affected.

- **Fire Instructions**

These appear in the Emergency Procedures for the organisation and possibly in the internal telephone directory. They should be displayed on notices in all buildings.

- **Electricity and Fire**

All portable electrical appliances should have a current Portable Appliance Test certificate and carry a PAT label. This involves a mechanical and visual check that all plugs, switches, flexible leads and electrical appliances are in good condition. In case of fire involving electrical equipment, the first action to take must be to switch off the power supply to that equipment *(if it is safe to do so.)* You should extinguish an electrical fire with *carbon dioxide,* **never with water or foam.**

Precautions in Offices, Libraries, etc.

A recent nation-wide survey has revealed that offices are the scene of a substantial number of serious accidents every year. Most of these are avoidable. There is an increasing use of machinery in offices, eg, paper-guillotines, duplicators, etc., which should be operated only according to the makers' instructions. Only maintenance personnel should remove the enclosing panels of machines. Leads should not be allowed to trail in a manner likely to cause persons to trip over them or to pull over the item. You should not leave appliances in precarious positions nor use waste-paper baskets as ashtrays.

Care must be taken to avoid spillage of water in rooms in which there are electric power points set in the floors. It is possible, in some circumstances, for a person standing on such a wet floor to receive a severe, possibly fatal, electric shock. When carrying files or other materials you should not carry so

many that your vision is obscured. Filing cabinet drawers should always be closed as soon as you have found what you want. The corner of a metal drawer can inflict a very painful injury. Open only one drawer at a time because leaving more than one drawer open may cause a filing cabinet to tip forward.

You must never stand on revolving stools or chairs and should only use appropriate kick-stools or step ladders to go above head height. You should not leave stacks of boxes, bags or files on the floor or near doorways for people to fall over. Polished floors, particularly if waxed or wet, offer a hazard. You should never run on the polished floors of corridors or common rooms.

Work Outside Normal Hours

Many companies have their own rules with regard to work outside normal hours, eg, 0800 to 1800 hours, Mondays to Fridays. Saturdays, Sundays, Bank Holidays and other official holidays are usually regarded as outside normal hours.

Extreme care should be exercised when working outside normal hours. *Such work must only be undertaken* with the explicit authority of the management of that organisation. It should be forbidden to perform operations deemed hazardous by the employer unless accompanied by another member of staff and only after prior permission has been given by the head of the section or their nominee for the particular work involved.

Electrical hazards

Two of the worst electrical hazards are careless or unskilled workmanship and faulty or worn out equipment. Neither of these hazards need arise. Electric and electronic supplies and equipment, including batteries and electrolytic capacitors can be responsible for personal injury and even death. They can also cause fires and explosions. Remember, some foreign colour coding of electrical leads differ from British practice. **If in doubt, ask.**

Lead lengths should be adequate for the particular job for which the equipment is currently being used. In no circumstances should you interfere with the wiring or connections of any electric point or appliance. All necessary adjustments or modifications to wiring will be carried out by a duly authorised, competent person.

Noise

Noise can cause damage to hearing, reduce efficiency or merely annoy. Damage to hearing can result from a sudden violent sound producing an effect as dramatic as the rupture of an ear drum. Continuous exposure to lower noise levels can, however, produce deafness. In the latter case the impairment to hearing may pass unrecognised for a long period of time due to the insidiousness of the effect. For advice on noise problems you should consult the organisation's Safety Adviser.

REMEMBER

You must complete Student Health & Safety Induction Check-list Form S1 as part of your submissions

3 Guidance notes and duties of Project Supervisor

(Note that the duties here apply to all projects Industrial, Erasmus and In-house)

The role of the Project supervisor

- Liaise between the academic supervisor and the student.
- Provide the student with a Safety briefing and work plan at the beginning of the project.
- Certify the student's work by signing the project brief and HSE Induction Report
- Be responsible for the technical supervision of the project and be available for discussion, feedback and support on a regular basis.
- Alert the academic supervisor of any problems that will affect the student's progress.
- Assess the student work using the marking sheet using Form P1

What are the aims of Project placements?

Placements provide an opportunity to assess in in a non-class environment, the effectiveness of the student's training. It permits the students to put into practice the skills and knowledge they have learned at University and to make use of a range of their skills for a fixed period of time. It is essential, therefore, that students are given real tasks to undertake and not simply left to watch someone else working.

Objectives

By the end of the project the student should

- have had some experience of extending themselves in difficult territory with open-ended work,
- have gained experience of working proactively, in contrast to the more reactive type of work involved in taught classes, labs and design projects,
- have developed a specialist knowledge base in one or more specific areas,
- have gained experience of project management and communication skills: setting targets; time management; monitoring and critically evaluating progress; communicating interim and final outcomes both verbally and by written report/project,
- have gained other professional engineering experience and/or research experience.

These general academic objectives can be met by a wide range of different types of projects. The main requirements for a suitable project are that it should be challenging, that the student should have a realistic prospect of undertaking a coherent body of work against defined objectives and that there should be definable benefits for your organisation.

Scope of the projects

Projects should be mainly technical in nature but could include aspects of economics, management, etc. Projects may be either conceptual and/or involve experimental or plant work and data.

As an important part of the initial work on the project, the student will be expected to contribute to the detailed specification of the scope, objectives and time scales for implementation. There will be a designated Academic Supervisor who will assist - if required - in defining the scope of the project

and will maintain liaison with you during the course of the project. There should also be a specific company supervisor.

The student will be working on your premises throughout all of the time period but some access to the Department might be appropriate, for example to gather data or access facilities

Working hours, attendance and absences

You should expect perfect attendance and punctuality. Any concern or problem regarding a student's attendance, punctuality, absence or behaviour should be brought to the notice of the Department immediately.

Requests by students for leave of absence (only allowed in exceptional circumstances) other than to attend interviews or urgent hospital appointments should be referred immediately to the Department.

Students have been instructed that they cannot take time off or leave work early during the placement period. If a student approaches you with such a request, please refer the student directly to the Department.

Students should not try to re-negotiate the working hours agreed between you and the Department (the normal organisation working hours). If a student approaches you with such a request, please refer it directly to the Department.

We would like you to treat the student like anyone else, ensuring that the student adheres to regulations of your establishment during the period of the placement.

If the student is absent at any time through illness, apart from your own procedures, they will be expected to follow University Procedures for reporting this too.

Orientation

Please ensure that the student feels as comfortable as possible in the work environment. It is often useful to give them an initial orientation, including information that the student may be hesitant to ask (most commonly issues such as official break periods, refreshment facilities, toilets, etc.)

Assessment and Confidentiality

The main academic outcome of the project is a written project that must be assessed by at least two academic staff and may be seen by an External Examiner. Confidential data can be omitted from the project if required by you and restrictions (including a complete embargo) can be placed on the availability of the project after assessment. Appropriate confidentiality agreements can be arranged to cover the project work if this is requested. The student will provide you with a copy of the project after assessment. If the student can usefully provide additional internal reports then this will be encouraged.

Evaluation

Your evaluation of the student at the end of the placement period is important feedback for the student and the Department. While performance should be evaluated against similar criteria set for

any other employee, please bear in mind the level of the student's ability. As a trainee we would prefer that the evaluation should focus more on the level of motivation, effort, work ethics and attitude that the student displays. This part of the project assessment process See Form P1

We expect the student to give at least two presentations of their work: an internal one within you at an appropriate mid stage to give feedback on their performance to date, and a final one before they return to the University. The latter is also part of the project assessment process.

Discipline

Students have been instructed not to use mobile phones during working hours. Also, they should not use office phones to make or receive personal calls (unless making arrangements for travel to and from work). Please do not hesitate to discipline students for such inappropriate behaviour.

Students have been instructed about the importance of confidentiality in the work place.
Even though you retain the right to terminate the placement at any time, we hope that any problems could be solved in consultation with ourselves.

The student will have an Academic Supervisor who will be in touch with you and the student around week 4-5 to meet in real time or virtually.

Subsequently the supervisor is available at any time if you have concerns on the progress of the students' work.

Alternatively contact:

Dr. Yi-Chieh Chen, Project Co-ordinator
Department of Chemical and Process Engineering
University of Strathclyde
Glasgow
G1 1XJ
Email: yichieh.chen@strath.ac.uk Phone: 0141 548 5304

Again note that on In-house projects both the Project and Academic supervisor may be the same person but these evaluations must be carried out.

4 Duties of Academic Supervisor

4.1 The role of the academic supervisor

Monitor the project timetable and advise any student if they are not meeting submission dates

Check that forms S1 & 2 are submitted on time

Be available for discussion with the student and the Project supervisor by arrangement.

Visit/Contact the student and the Project supervisor at around week 5 (The student will organise this). Give feedback via a pseudo Myplace assignment using Form A1

Ask for access to the students Log book and ensure its contents are up to date and relevant

Monitor and make helpful comments about the progress of the work, again at week 11 by providing feedback on a draft report again via a pseudo Myplace assignment. Again using Form A1

Help the student with academic issues such as report preparation, technical challenges etc.

Assess the student's report and oral presentation using Form A2, agree a common mark with your 2nd marker colleague and lodge A2 on Myplace by the end of the presentation period.

4.2 In the case that you are also leading an In-house Research project

Follow the guidance given in Section 3 and complete the assessment Forms S1 & 2.

If at all possible, delegate a supervisory role to one of your research team

You must also complete the Project Work Assessment

5 Forms

DEPARTMENT OF CHEMICAL & PROCESS ENGINEERING

University of Strathclyde Engineering

5.1 S1: Student Health & Safety Induction Check-list

Name of student _____ Start date _____

Organisation _____

These items should be included in your induction into the organisation, preferably on your first day. Please check off the items below when they occur. It may be that not all of the items below are applicable, for example, your project may not involve any manual handling. This list is not exhaustive and other topics may be covered where appropriate:

No	**Health & Safety Issues**	**Date**
1	Emergency procedures*	
2	First Aid arrangements*	
3	Fire procedures*	
4	Accident reporting and location of accident book*	
5	Safety Policy received and location known*	
6	COSHH Regulations/Risk Assessments	
7	Display Screen Equipment Regulations/Risk Assessment	
8	Manual Handling Regulations/Risk Assessments	
9	Other appropriate Risk Assessments	
10	Protective clothing arrangements	
11	Instruction on equipment you will be using	
12	Other issues	

***** These items **must** be included in any induction training

Signed _____(Project person responsible for safety) Date _____

5.2 S2: Project Information

1 Student	
Name	
Address	
Telephone number (work)	
Mobile number	
Email	
2 Organisation	
Organisation	
Department	
Address	
3 Project supervisor	
Name	
Position	
Telephone no.	
Fax no.	
Email address	
4 Project starting date	

4 Short description of organisation and full details of the project
6 Work plan highlighting the student's responsibilities
7 Comments
8 Date and signature of student **Date and signature of supervisor**

5.3 P1: Student's Assessment by the Project Supervisor

Certification of Completion of Project & Student's Assessment	University of Strathclyde Department of Chemical & Process Engineering
This will form part of the marking scheme of the student's project and will count for 20% of the overall marks. Please pass this to the student and the student will send it to our VLE	

1. Name of Student	
2. Organisation	
Name & Department	
Address	
3. Project supervisor	
Name & Position	
Telephone no.	
Email address	
4. Project duration	
Start date	
Finish date	
5. Leaves of absence	
Sick leave (days)	
Interviews (days)	
Other (days)	

6. Assessment

Did the student successfully achieve the aims set out in the project? □ Yes □ No

If no, please explain:

Criteria	**Max Mark**	**Actual Mark**	**Comments**
Technical knowledge	10 marks		
Ability to evaluate information and carry out task	10 marks		
Teamwork skills	10 marks		
Communication with peers and superiors	10 marks		
Verbal/written reporting	10 marks		
Meeting work deadlines	10 marks		
Attendance & punctuality. Observance of organisation rules and regulations	10 marks		
Presentation Present a summary of their work, setting out the Project objectives and how they were met. Present clear conclusions that demonstrate critical and evaluative abilities and be able to respond to audience questions.	15 marks 15 marks		
Total	100 marks		

Project supervisor signature: Date:

Note: This will form part of the marking scheme of the student's project and will count for 20% of the overall marks. We would not expect maximum scores in all categories unless the student's performance was of the highest standard. Refer to University of Strathclyde Marking Guide for guidance.

Please pass this form to the student and the student will send it on to the University as a record of their assessment.

5.4 A1: Feedbacks after Visit & on Draft Report

***Use as appropriate**

Student: **Academic Supervisor:**

Visit Report Comments

Student	Date of Visit
Students General Welfare	
Project Supervisor's Comments	
Academic Supervisor's Comments	
Any difficulty encountered by Student	
Log book Content Satisfactory	

Draft Report Comments

Student	Date
General Content on Report	
Comments on what has yet to be completed	

5.5 A2: Assessment to project report by Academic Supervisor

To be added as Feedback on Myplace on Completion

Student:

Academic supervisor: 2nd Marker:

Criteria	Max Marks	Actual Marks	Comments
Reference to Literature or Industry Standards and codes	15		
Appropriate application of Engineering & Scientific principles	15		
Assessment and evaluation of information	20		
Technical decision making or experimental practice	20		
The completeness of the Summary of work carried out and its overall value	15		
Personal Reflection on the Learning Outcomes as a future Professional Engineer	15		
Total Marks Supervisor 2nd Marker	**100**		**Signatures:**
Agreed Final Mark	**100**		

5.6 University of Strathclyde Marking Guide

In considering your project, and in completing your work and report, consider both the Marking Criteria above and Guidelines detailed below.

This is the basis for the University's marking structure for individual assignments and modules, for essays, coursework, projects and examinations as well as for overall awards. The bullet point lists are indicative of performance at each level.

% Banding	Descriptor (the highlights that demonstrate the differentiation between mark levels)
80 - 100	Outstanding demonstration of learning outcomes: - wide, appropriate knowledge and understanding (and where appropriate effective project work) **including insight and originality** - evidence of reading and **thought beyond programme/assignment materials** - appropriate use of references and exemplars - an outstanding standard of writing and communication and/or presentation
70 - 79	Excellent demonstration of learning outcomes: - wide, appropriate knowledge and understanding (and where appropriate effective project work) **including insight or originality** - evidence of reading and thought beyond programme/assignment materials - appropriate use of references and exemplars - an excellent standard of writing and communication and/or presentation
60 - 69	Comprehensive demonstration of learning outcomes: - wide appropriate knowledge and understanding (and where appropriate effective project work) **with only occasional lapses in detail** - evidence of reading and thought beyond programme/assignment materials - a high standard of writing and communication
50 - 59	Satisfactory demonstration of learning outcomes: - sound knowledge and understanding of essential material (and where appropriate essential project skills) - **general accuracy with occasional mistakes and/or uncoordinated use of information**

http://www.strath.ac.uk/media/ps/cs/gmap/academicaffairs/policies/marking_guide_for_UG_programmes_-_Effective_Sep_14.pdf

6 Guidance on Report Writing

6.1 Preparation of the draft

You should prepare a draft report as soon as possible. The preliminary steps in drafting a report include the collection, classification and selection of material to be included. You should:

- select the relevant material;
- check and assess the accuracy of your "facts";
- separate facts from opinions and inferences;
- classify your material according to the different sections in the report.

Ask your Academic Supervisor for comments on the draft: in sections, not all at once!

6.1.1 Contents

Material for the report will be based primarily on work you carried out personally, but may be supplemented by observation of, and enquiry about, work being done by others and external sources such as technical literature, training lectures, etc. During the period of training many jobs may be carried out. Usually it is better to give a general description of the work and confine detailed appraisal to one or two tasks. If you have worked in projects involving other people, your contribution to the work should be clearly stated. The report should include a good and concise overview of the organisation and it is important to show that you have gained a good understanding of the work involved and its relevance. The report should reflect analytical thinking.

6.1.2 Writing style

The report should be concise and free of irrelevant material, easy to read and understand, logical in presentation and balanced in layout. Write in correct technical English and avoid colloquialism. Spell check!

Length

The report should not exceed **12,000 words** (appendices are not included in this count). Remember that Appendices are for further information to support material in the body of the report. Appendices are not marked.

The word count is from the **Summary to Conclusion** at the end of the report and will include whatever the MS Word "*word count function*" counts.

We will check the word limit, but remember that if it's too short, then worry about whether you have enough material that can be marked - again check with your supervisor. If it is too long, then there is a risk that your work is submerged in detail and difficult to find. If you have written more than 12000 words, then we will probably discount the extra material since it would be unfair on those who have kept within the range.

When you begin your report, aim for 10,000 words not 12,000, then you have degree of discretion to add final comments.

There are 4 things you need to think about:

1. Have I covered everything in the Marking Schedule? Particularly in relation to the mark allocation.

2. Have I hidden important detail in the appendices?

3. Have I spent too much time explaining who the organisation is and not enough explaining why the output of the project is important?

4. Have I referred to the "University of Strathclyde Marking Guide" mark banding guidelines to get the best out of my work?

Format

• The text shall appear on **both sides of the page**, lines single spaced. There should be a margin (before trimming) of 30mm at the left-hand (binding) edge, of 25mm at the outside edge, of 20 mm at the head of the page and of 25mm at the tail. Illustrations, diagrams, tables, etc., may appear on either side of the page, whether or not the other side is blank, provided that legibility is not impaired. The margin should conform as far as possible to that specified above for text pages; in any event, there must be an adequate binding edge margin.

This is the new format and is designed to reduce the volume of paperwork in the Department.

- Font: 10 pt Times New Roman.

• Spacing: single

- Header: includes a running title of the project write-up (left justified) and the student's name (right justified); 10 pt Times New Roman; underlined.

- Footer: includes date (left justified) and the page number (right justified); 10 pt Times New Roman.

• Page numbering: summary, acknowledgements and table of contents are numbered as i, ii, Mi…; pages after that are numbered with Arabic numbers e.g. 1,2,3…; appendices have a separate numeration.

Tables: numbered according to the order they are referred to in the text and as close as possible to the place where they are first mentioned (numbered); caption above the tables.

- Figures: numbered according to the order they are referred to in the text and as close as possible to the place where they are first mentioned (numbered); caption below the figures. Data should be presented either in figures or table format (do not repeat information).

Structure

The report should be structured in the following sections:

- Title page
- Summary
- Table of contents
- Acknowledgements
- Introduction

• Core (this should be structured in sections, such as Description of the Organisation, Description of the work, Discussion and Reflection & Review. These sections may vary from report to report depending on the nature of the work. Ask your Academic Supervisor for advice on the appropriate structure for your report.)

• Conclusions

• Nomenclature

• References

• Appendices

Some guidelines for the different sections are provided below.

Title Page

Use the standard format (sample in Section 6.2).

Summary

Brief, factual, generally following the same order of presentation as the report. Do not include figures, tables or references.

Table of Contents

Lists all sections of the report, with indication of page numbers, and the titles of the appendices.

Acknowledgements

It is a matter of honesty and courtesy that acknowledgement is made to those who helped you in your work.

Introduction

The introduction sets the scene. It should include a brief description of the organisation, the type of work carried out, projects undertaken, background information to the work carried out and a brief outline of the report and of the learning objectives for the project.

Description of the organisation

In this section you should show a good understanding of the organisation. Details may include the type of organisation, management structure, products and markets catered for. Mention your position in the organisation.

Description of the work & discussion

Elaborate on issues mentioned in introduction. Use a logical development, not necessarily in chronological order. Explain the significance, purpose and nature of your work. Describe methods used and outcomes. Try to ensure a balanced treatment of issues, in accordance with their relative importance, and excluding irrelevant material. Present results and discuss around them. Explain the significance of these results and their impact on the organisation. Comment on technical difficulties you may have experienced. In a long report, subdivide with appropriate sub-headings, or divide this section into different sections.

Equations should be numbered sequentially.

Conclusions

Summarise findings and inferences mentioned in the core of the report. Try to be as brief as possible, with concise statements. Include recommendations, where appropriate.

Reflection & review

Relate this section to the learning objectives in the introduction. Report what you have learnt about the organisation and about yourself. Mention your achievements, what you have learnt, skills you have acquired or improved. This might be technical or "soft" skills. Try to relate this to what you have learned in your coursework at University and what skills you will take forward to your first full time professional post.

Nomenclature

List all the symbols in alphabetical order, with Greek symbols at the end.

References

Provide references to any source you may have used (books, journals, reports, electronic sources, etc.). This enables the reader to confirm your extracts or investigate a matter in more detail. Use a standard format.

For non-electronic references citations should be made as follows:

- 1 author - Surname (date) or (Surname, date)
- 2 authors – Surname 1 and Surname 2 (date) or (Surname 1 and Surname 2, date)
- more than two others – Surname 1 et al, (date) or (Wigginsworth et al., 2005)

Examples:

- "These results are similar to those earlier reported by Wigginsworth (2005)."
- "These results are similar to others reported in literature (Wigginsworth, 2005)."
- "These results are similar to those earlier reported by Wigginsworth and Foltz (2005)."
- "These results are similar to others reported in literature (Wigginsworth and Foltz, 2005)."
- "These results are similar to those earlier reported by Wigginsworth et al. (2005)."
- "These results are similar to others reported in literature (Wigginsworth et al., 2005)." To cite a specific part of an electronic source, indicate the page, chapter, figure, table, or equation at the appropriate point in text. Always give page numbers for quotations. Note that the words page and chapter are abbreviated in such text citations.

Examples:

• (Vittoria & Rameau, 2004, p. 332)

• (Schutz, 2002, chap. 3)

For electronic sources that do not provide page numbers, use the paragraph number, if available, preceded by the paragraph symbol. If neither paragraph nor page numbers are visible, cite the heading and the number of the paragraph following it to direct the reader to the location of the material.

Examples:

• (Meierbeer, 2004, 1 5)

• (Purcell, 2002, Conclusion section, 1 1)

List all references mentioned in the report, including electronic sources in alphabetical order. Electronic sources include aggregated databases, online journals, Web sites or Web pages, newsgroups, Web- or e-mail-based discussion groups, and Web- or e-mail-based newsletters.

For non-electronic sources, reference author's name and initials, title of book, paper, journal or report, publisher and place, edition, date, first and last page number. Use a standard format such as:

• Korngold, B.K., Scriabin, R.S., & Rachmaninov, S. (1999). Thermal properties of fresh and frozen fish. International journal of Refrigeration, 4(3), 143-146.

• Mozart, W. A., Offenbach, F., & Granados, V. (2001). Modelling water uptake and soluble solids losses by puffed breakfast cereal immersed in water or milk. In Proceedings of the Seventh International Congress on Engineering and Food, Brighton, UK.

• Nyman, M., Kochel, M.H., Nachtigal, C.J., & Weber, C. M.(2003). Applied linear statistical models (4th ed., pp. 1289-1293). Irwin, Chicago.

• Tallis, T. (2004). Storage of particulate solids. In D. J. Bailey, L. Lofoten (Eds.), Handbook of powder science and technology (pp. 365-463). Van Nostrand Reinhold, New York.

For electronic references use the following format:

Online periodical

Andrews, A. A., Albrechtsberger J. C., & Auchenshuggle, C. C. (2005). Title of article. Title of Periodical, Volume, Number, Pages. Retrieved month, day, year, from source.

Online document

Ariega, A. A. (2000). Title of work. Retrieved month day, year, from source.

Internet articles based on a print source

Use the same basic primary journal reference (as above), but if you have viewed the article only in its

electronic form, you should add in brackets after the article title "Electronic version".

Example

• Verdi, G., Puccini, G., & Dallpicolla, J. (2002). Role of reference elements in the selection of resources by psychology undergraduates [Electronic version]. Journal of Bibliographic Research, 5,117-123.

If you are referencing an online article that you have reason to believe has been changed (e.g., the format differs from the print version or page numbers are not indicated) or that includes additional data or commentaries, you will need to add the date you retrieved the document and the URL.

Example:

• Verdi, G., Puccini, G., & Dallapicolla, J. (2002)Role of reference elements in the selection of resources by psychology undergraduates. Journal of Bibliographic Research, 5, 117-123. Retrieved October 27, 2002, from http://jbr.org/articles.html

Article in an Internet-only journal

Zelenka, B. L. (2004, March 23). Cultivating positive emotions to optimise health and wellbeing. Prevention & Treatment, 3, Article 0001 a. Retrieved November 20, 2004, from http://journals.apa.org/prevention/volume3/pre0030001 a.html

Article in an Internet-only newsletter

Use the complete publication date given on the article. Note that there are no page numbers. In an Internet periodical, volume and issue numbers often are not relevant. If they are not used, the name of the periodical is all that can be provided in the reference. Whenever possible, the URL should link directly to the article. Break a URL that goes to another line after a slash or before a period. Do not insert (or allow your word-processing program to insert) a hyphen at the break.

Example:

• Haydn, M., Haydn, F. J., Telemann, J. P., Hummel, J. N., Vorisec, S., Clementi, M., et al. (2000, July).

Videocounselling for families of rural teens with epilepsy - Project update. Telehealth News, 2(2). Retrieved from http://www.telehealth.net/subscribe/newslettr4a.html1

Stand-alone document, no author identified, no date

If the author of a document is not identified, begin the reference with the title of the document.Example:

• GVU's 8th WWW user survey. (n.d.). Retrieved August 8, 2004, from http://www.cc.gatech.edu/gvu/usersurveys/survey1997-10/

Document available on university program or department Web site

If a document is contained within a large and complex Web site (such as that for a university or a government agency), identify the host organization and the relevant program or department before giving the URL for the document itself. Precede the URL with a colon.

Example:

• Tallis, T, Byrd, W., Tye, C., Sheppard, W., & Taverner, J.. (2003). Technology and education: New wine in new bottles: Choosing pasts and imagining educational futures. Retrieved August 24, 2003, from Columbia University, Institute for Learning Technologies Web site: http://www.ilt.columbia.edu/publications/papers/newwine1.html

Electronic copy of a journal article, three to five authors, retrieved from database

When referencing material obtained by searching an aggregated database, follow the format appropriate to the work retrieved and add a retrieval statement that gives the date of retrieval and the proper name of the database.

Example:

• Bach, J. C, Couperin, L., Dussek, J. D., Locatelli, E. D., & Weelkes, T. (2003). Role of early supervisory experience in supervisor performance. Journal of Applied Psychology, 78, 443-449. Retrieved October 23, 2003, from PsycARTICLES database.

Appendices:

Information contained in the appendices should be referred to in the body of the report. Information in appendices should include details that are not necessary to understand your work but that might be of interest to the reader and useful for someone who might continue your work. Organise information in different appendices according to its nature.

6.2 Sample Report Cover Page

DEPARTMENT OF CHEMICAL & PROCESS ENGINEERING

University of Strathclyde Engineering

Department of Chemical & Process Engineering

MEng in Chemical & Process Engineering

18530

Project Title

Word Count

This project is submitted in partial fulfilment of the regulations governing the award of Degree of MEng in Chemical Engineering at the University of Strathclyde

Your name: Date:

Organisation:

In-house Supervisor:

Academic Supervisor:

7 Guidelines on Project Presentation

A PowerPoint presentation content might include:

- Your sponsoring organisation, its business/research aims etc.
- Put your project in context i.e. what was the problem? Summarise the project objectives,
- Give a brief description of project results,
- Conclusions/Recommendations, including – if appropriate – the value to the organisation
- Reflection on what you gained from the project.

Keep the detail simple and concise, with no more than 4 or 5 bullet points a slide **and a maximum of 6 slides.**

In addition,

- Be authoritative i.e. you must convince your audience of your mastery of your project.
- Use visuals e.g. diagrams, graphs, flowcharts, etc. Make sure they are big enough for the audience at the back of the room to read them, especially the captions.
- Use high contrast displays e.g. dark colours on white background, because low contrast displays are hard to read, especially if the room is not adequately dark or if any of your audience is colour blind.
- Look at your audience, not the screen. Avoid the use of hand notes. If you must look at the screen, use the one on the laptop.
- Stand to one side of the main screen to avoid blocking it. Use a pointer – you won't be able to reach the top of the screen otherwise.
- Be prepared – you will have sent a copy via Myplace and this will be pre-loaded but make sure you have a backup handy (USB pen drive or on the network) in case of emergencies.
- Look presentable. Remember that there may be organisation representatives at your presentation and that your appearance is part of your presentation.
- Be familiar with the contents of your report and be able to find any detail promptly if you cannot recall it, since your supervisor audience may question you on its content, assumptions, results and conclusions.

And, finally - **keep it simple**. You won't have time to go into any depth.

8 FAQs

1) How do I know if my project is going well?

You will know from the feedback you get from your Project supervisor. If it isn't, see (5)

2) Whom should I report to?

a) At the organisation: Your Project supervisor; b) At the University: Your academic supervisor.

If you can't contact them, contact Dr. Yi-Chieh Chen

3) Can I delay my start date because of job interviews?

Yes, but don't make it more than a few days because you'll have less time to write up your project.

Let your Project and academic supervisors know **beforehand**

4) What happens if I'm ill?

a) Before I start: Let your academic supervisor know. He/she will contact the organisation and arrange a later starting date. If it's likely to be more than a week, special arrangements may need to be made.

b) While I am on my project: Let your Project and academic supervisors know immediately. They will arrange between them a contingency plan.

You need to follow the University Procedures fully here; otherwise any absences cannot be taken into account.

See
http://www.strath.ac.uk/sees/studentpolicies/policies/attendance/absenceandvoluntarysuspension

and http://www.strath.ac.uk/staff/policies/academic/ for Personal Circumstances & Academic Appeals Procedures

5) What do I do if the project isn't going according to plan?

First discuss your concerns with your Project supervisor and see if the project can be brought back into plan. If not, let your academic supervisor know immediately and he/she will arrange to contact your Project supervisor to discuss the project. Above all, don't let the project drift – you only have 12 weeks!

6) What do I do if the organisation insists on confidentiality?

There are well-accepted procedures for this. First, let your academic supervisor know. We will then restrict the circulation of your project to your academic supervisor, project marker and external examiner and we then embargo release of the project write-up for a period of at least 5 years. You will still need to do a presentation but any confidential results can be left out. Also, let your Project supervisor see and approve your presentation before you give it.

In the most extremes cases (two last year), the markers of the report and confidential presentations may be asked to sign a non-Disclosure Agreement (NDA) and the rest of the audience will be asked to leave.

If you are not being asked to provide a confidentiality agreement for us to complete, then marked the front page of your report in 18 point bold with:

"Confidential to be seen by Academic Supervisors and External Examiner only"

7) We have a logbook/diary that gets updated periodically, should this be included in the appendices?

No, not necessary. It's mainly for your supervisor when he/she visits you and for you when you write up your project. It also helps you to remember the details of what you did on your project which will help when you get to the write-up. It is also evidence of your work if you become ill or need to suspend your project.

8) What should be in the Report Appendices and do we have to include all the appendices that we have sent to the department in our project write-up?

No. The Appendices in the project write-up are support to the main project i.e. tables, flow charts, CAD drawings etc. It's not a way to get the main project inside the word count limit, so put all but essential material in the main report.

9) How many copies should I have printed and bound etc?

All Submissions are electronic via Myplace

10) We have a 20 min slot. Is there a restriction on presentation length?

The presentation is 10 minutes maximum followed by 10 minutes for questions.

11) My academic supervisor has said to me: "I am not able to give detailed mark on my draft project write-up without prejudicing an assessment of the final version.

Your academic supervisor can give general feedback without affecting the final mark, but anything specific - for instance, wrong numerical method used – could improve the project write-up and increase the final mark, so he/she won't give specific help. You get marked on your work, whether the methods are right or wrong, not on your work with your supervisor's improvements.

13) My organisation has asked: who's liable if I'm involved in an accident?

In the event of an accident or ill health occurring, the University would be expected to demonstrate that it had done everything "reasonably practicable" to secure the student's health and safety while on project with the host employer. Thus the employer's responsibility is shared with the University, as well as with the student (who has a responsibility for his/her own safety and that of others).

12) Is the Word Count important?

Yes, and it will be checked and excess material will be reject by your Academic Supervisor or in our Assessment checks

9 How to make the most of your Project

Treat this as employment Try not to be nervous. Whilst a new workplace, job and colleagues may seem daunting, after even just a day or two, things will start to feel more familiar. Be punctual. Be polite.

Dress appropriately. (If in doubt as to dress code, phone beforehand to check.)

Be enthusiastic, interested and willing to learn, but be prepared to do some boring, mundane tasks.

Don't be afraid to ask for clarification if you need it. Take notes when being briefed.

Show initiative and try to exceed expectations. Try to do everything to the very best of your ability.

Don't clock-watch. Starting early, leaving late or working through lunch - if required - will only impress.

Don't have your personal mobile switched on in working hours.

Ask before using an organisation phone to make a personal call - even at lunchtime.

Never use the internet or email for personal use in work time. (If you wish to do so at lunchtime, ask whether this is permissible.)

Ask for feedback on your performance from colleagues. Learn to accept critical feedback and act on it.

Keep alert to any opportunity for continual professional development and networking - such as courses, training sessions, meetings and external events.

Take advantage of visits to and from customers/suppliers/subsidiary companies to build up a list of contacts who could be useful when job hunting.

If possible, talk to employees about their roles, responsibilities, career paths to date and future aspirations.

Identify, observe and learn from people who are competent in areas where you are not - for instance, excellent presenters, capable managers, good networkers.

Keep a logbook and include your experiences, and list duties you perform/achievements you make. Note which parts of the experience you enjoy, and which you do not.

Remember to thank people who went out of their way to make your project a valuable experience, such as your supervisor and helpful colleagues.

Consider sending a thank you letter/note/card, perhaps to the Head of Department where you worked, to let them know how much you learnt and enjoyed your time with the organisation.

Try and get a reference - preferably written rather than just a name and contact number - from your supervisor.

Try and enjoy the experience.

After your project

Consider what you have learnt from your experience.

What skills have you developed?

What new skills have you learnt?

What did you enjoy?

What did you not enjoy?

What did you do well, and what did you not do so well?

Do you still want to work in the industry you thought you did?

Have you now ruled out any particular roles within that industry?

Remember to update your CV to include your project