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Aims

With an aim to elevate its undergraduate students’ international exposure, the College of Elite Education (CEE) of Nanjing University of Science and Technology (NUST) is organizing a 4-week student exchange summer training camp with our partner universities. Through activities such as technical workshops, hands-on trainings, seminars and talks, company visits, mini-projects and presentations, etc. at host institution, students are expected to gain certain technical know-how relevant to their major studies during their summer vacation. In addition, the summer camp would provide an unforgettable cultural experience to all participating students as well as a chance to understand more about the world and themselves.

Intended Learning Outcomes (ILOs)

ILO1  Aware the level of technology in local business operations and relate knowledge learnt in class to real business context.
ILO2  Aware the importance of working productively as a team, consisting of students from different universities, and in particular, communicates and present relevant information effectively in a collaborative environment.
ILO3  Communicate effectively and socially in a multi-cultural and non-local setting.

Workshop/Training Topic 1: Transceiver System for Wireless communication

ILO4  Describe and explain basic communication principle.
ILO5  Understand the design principle of microwave components. Such as the power dividers, dipoles, or power amplifiers.
ILO6  Microwave components measurement by using Network Analyzers and a Compact Range Antenna Anechoic Chamber.

Workshop/Training 2: Agile software process practice: extreme programming

ILO7  Aware a Software Development Life Cycle.
ILO8  Understand Agile software development course, and in particular, the XP course.
ILO9  Understand the basic structure of mobile application programming.
ILO10 Aware the importance of working productively as a team, consisting of students from different universities.

Workshop/Training 3: Fundamentals of Unmanned Aircraft Vehicle Control System

ILO11 Master the basic structure building of UAV.
ILO12 To have the ability of building the dynamic model of UAV according to its structural characteristic.
ILO13 To have the ability of designing control strategy for UAV and make simulation examination accordingly.
ILO14 To have the ability of designing basic UAV flight control software.
2014 Camp Schedule @ NUST

The Summer Training Camp to be held in NUST will be scheduled on 7 July 2014 – 1 August 2014, 20 weekdays.

<table>
<thead>
<tr>
<th>Week 1</th>
<th>Day 1</th>
<th>Day 2</th>
<th>Day 3</th>
<th>Day 4</th>
<th>Day 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>7/7, Mon</td>
<td>Opening Ceremony/ Introduction</td>
<td>Key Laboratory Visit (a.m.)</td>
<td>Workshop/ Training</td>
<td>Workshop/ Training</td>
<td>Workshop/ Training</td>
</tr>
<tr>
<td>Technical Topic 1</td>
<td>Workshop/ Training</td>
<td>Seminar/ Talk (end at 3:00pm)</td>
<td>Free time</td>
<td>Workshop/ Training</td>
<td>Academic Talk &amp; Discussions</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Week 2</th>
<th>Day 1</th>
<th>Day 2</th>
<th>Day 3</th>
<th>Day 4</th>
<th>Day 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>14/7, Mon</td>
<td>Workshop/ Training</td>
<td>Company Visit (a.m.)</td>
<td>Workshop/ Training</td>
<td>Workshop/ Training</td>
<td>Workshop/ Training</td>
</tr>
<tr>
<td>Technical Topic 1</td>
<td>Workshop/ Training</td>
<td>Seminar/ Talk (end at 3:00pm)</td>
<td>Free time</td>
<td>Workshop/ Training</td>
<td>Academic Talk &amp; Discussions</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Week 3</th>
<th>Day 1</th>
<th>Day 2</th>
<th>Day 3</th>
<th>Day 4</th>
<th>Day 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>21/7, Mon</td>
<td>Workshop/ Training</td>
<td>Company Visit (a.m.)</td>
<td>Workshop/ Training</td>
<td>Workshop/ Training</td>
<td>Workshop/ Training</td>
</tr>
<tr>
<td>Technical Topic 2</td>
<td>Workshop/ Training</td>
<td>Seminar/ Talk (end at 3:00pm)</td>
<td>Free time</td>
<td>Workshop/ Training</td>
<td>Academic Talk &amp; Discussions</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Week 4</th>
<th>Day 1</th>
<th>Day 2</th>
<th>Day 3</th>
<th>Day 4</th>
<th>Day 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>28/7, Mon</td>
<td>Workshop/ Training</td>
<td>Company Visit (a.m.)</td>
<td>Workshop/ Training</td>
<td>Workshop/ Training</td>
<td>Group Presentation plus Closing Ceremony @ Academic Exchange Center</td>
</tr>
<tr>
<td>Technical Topic 2</td>
<td>Workshop/ Training</td>
<td>Seminar/ Talk (end at 3:00pm)</td>
<td>Free time</td>
<td>Free time</td>
<td></td>
</tr>
</tbody>
</table>

Note: the team competition activity will be arranged in weekends, which are not included into the above listed time schedule.

Daily Schedule

- 8:30am – 12:00pm (3.5 hours) Morning Session
- 12:00pm – 2:30pm Lunch and Break
- 2:30pm – 5:30pm (3 hours) Afternoon Session
Training Content

Technical Topics for Workshops/Training

Three projects are prepared for the summer camp. The students will be divided into three groups, and each will take part in one among the three projects during the two-week training. In each group, the students will be divided into three to four mini-groups and do the projects under the supervisions of professors and PhD candidates in NUST.

<table>
<thead>
<tr>
<th>Topic</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Topic 1</td>
<td>Transceiver System for Wireless Communication system</td>
</tr>
<tr>
<td>Topic 2</td>
<td>Agile software process practice: extreme programming</td>
</tr>
<tr>
<td>Topic 3</td>
<td>Fundamentals of Unmanned Aircraft Vehicle Control System</td>
</tr>
</tbody>
</table>

Academic Talk and Company visit

Academic Talk will be delivered in a relaxing atmosphere once a week to give students a brief introduction of the latest research and technology development in the field. Company visit to industry is also organized for understanding the real-life environment about the management and organization, and trading practices of companies in the hosting countries/areas.

Oral Presentation

Group Presentation is a requirement scheduled at the end of the summer camp for students to conclude and present what they have learned not only on technical skills and knowledge, but also on out-of-classroom aspects such as cultural difference, people they met, learning experience, etc.

Team Competition

Team competition will be available one or two times, as one kind of team morale-building exercise, which help the students to focus on teamwork, interpersonal, inter-departmental communication and coordination with each other. Bamboo Raft Rowing, Field Survive Training, or Bicycle Riding along the Ming Dynasty City Wall in Nanjing is now under consideration.

Assessment

Students will be assessed according to the following scheme:

<table>
<thead>
<tr>
<th>Component</th>
<th>Weighting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technical Workshop/Training</td>
<td>30%</td>
</tr>
<tr>
<td>Group Projects and Written Reports</td>
<td>30%</td>
</tr>
<tr>
<td>Oral Presentation</td>
<td>30%</td>
</tr>
<tr>
<td>Team Work Spirit</td>
<td>10%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
</tr>
</tbody>
</table>
Entrance Permission Application to Mainland of China

When we receive your information from your home institution, we will issue you a letter of acceptance for the Summer Training Camp. The entrance permission application to Mainland of China is necessary before your departure.

Campus Location and Accommodation

Campus Location

The Metro is one of the most convenient means of public transport in Nanjing, along with the Taxi. Both Xia Ma Fang and Xiao Ling Wei stations are convenient to the campus.

Getting to NUST- From Nanjing Lukou International Airport

- By Airport Bus – take the Bus from the Airport Station to Xi Hua Men Station, where there is metro station named as Xi Hua Men. You will need to make sure that the direction is to the station as Jing Tian Road. It will cost you about RMB¥28 and take you about 55 minutes.
- By taxi – it will cost about RMB¥120~150 to get to NUST.

Accommodation

Students should arrive in Nanjing no later than 6 July 2014. Accommodation will be reserved for all participating students for the period of 5 July – 20 July 2014 (i.e. 15 nights). Participating students will be notified of the detailed arrangement in early June 2014.

Travel and Medical Insurance

Students are required to have suitable and adequate insurance to cover the entire period of their study at NUST in Mainland of China. Please refer to and follow the advice provided by NUST’s International Exchange Office.

Certificate, Credit Transfer and Exemption

You should consult your home institution for the possibility and arrangements of credit transfer or course exemption. A certificate of attendance and a performance report will be issued to students who have completed the training camp, which can be equal to two credit transfer.
Appendix A: Detailed information on Project Topics

Topic 1: Transceiver System for Wireless Communication

Course Aims:

Wireless communication is the transfer of information between two or more points that are not connected by an electrical conductor. The most common wireless technologies use radio. With radio waves the distances can be short, or as far as thousands or even millions of kilometers for deep-space radio communications. It encompasses various types of fixed, mobile, and portable applications. This topic is aimed at providing students with an understanding of transceiver system for wireless communication application.

Course Structure:
- Describe and explain basic communication principle
- Function of the Key components in the transceiver system
- Design and measurement techniques

Intended Learning Outcomes:
- Aware the principle of the system
- Understand the functions of the components in communication system
- Understand the basic design process and measurement method
- Aware the electrical performance and the impact to the communication system

Topic 2: Agile software process practice: extreme programming

Course Aims:
Extreme Programming (XP) is a software development methodology which is intended to improve software quality and responsiveness to changing customer requirements. As a type of agile software development, it advocates frequent "releases" in short development cycles, which is intended to improve productivity and introduce checkpoints at which new customer requirements can be adopted. Though pair programming, test-driven development, simple design and cycle presentation, this topic is aimed at providing students with an understanding of XP and a using of programming language.

Course Structure:
- Software engineering and Agile
- Extreme Programming and the key practices
- object-oriented design and programming techniques
- XP lab (3 Iteration)

Intended Learning Outcomes:
- Aware a Software Development Life Cycle.
- Understand Agile software development course, and in particular, the XP course.
- Understand the basic structure of mobile application programming.
- Aware the importance of working productively as a team, consisting of students from different universities.
Topic 3: Fundamentals of Unmanned Aircraft Vehicle Control System

Course Aims:
Aircraft vehicles, especially unmanned aircraft vehicles (UAV), are receiving more and more attention in many social fields because of its extensive applications. Unmanned autonomous flight control technique is the kernel for UAV, and has a crucial status in UAV flight control investigation area.

“Fundamentals of unmanned aircraft vehicle control system” is a comprehensive course which is composed of the knowledge of automation, machinery electronics, aerodynamics and communication, etc. It is a practical training courses for students to fusion such basic knowledge. The teaching objective is to let the students master the application of control theory on UAV, have the ability to analysis the dynamic model of UAV, and be able to design controlling strategy for UAV.

Course Structure:
- Introduction on basic UAV component structure
- Dynamic performance analyses on UAV and flight control strategy designation
- Experiments of UAV dynamic model stimulation
- Experiments of making micro-quadrotor and fixed wing flight model, and flight controller testing

Intended Learning Outcomes:
- To master the basic structure building of UAV.
- To have the ability of building the dynamic model of UAV according to its structural characteristic.
- To have the ability of designing control strategy for UAV and make simulation examination accordingly.
- To have the ability of designing basic UAV flight control software.
Appendix B: Pre-arrival Information

Safety
- Although Nanjing is comparatively a safe city, it is always in your best interest to stay vigilant and safeguard your personal well-being at all times.
- Nanjing is right-hand traffic in driving. Always remember to check the traffic on your left hand side and then the right before crossing the road.
- In the event of an emergency, call 110 (police), 119 (fire), and 120 (ambulance) for help.

Weather/ Climate
Nanjing’s summer is hot and dry, with an average temperature of 33°C in July.

Electricity
The standard electrical voltage in Mainland is 220 volts AC, 50Hz. The majority of electrical sockets take a three-pronged plug. Transformers and adaptors for electrical/electronic devices can be purchased in Nanjing.

Transportation Card
Transportation Card is an electronic stored-value card that can be accepted by most public transport including Metro, buses, and minibuses.

Communication
You can use your own mobile phone in Nanjing if it supports the GSM 900/1800, CDMA2000 and WCDMA frequency bands.

Estimated Cost of Living
The estimated cost of living given below is for reference. The actual cost may vary among individuals.

<table>
<thead>
<tr>
<th>Expenditure</th>
<th>Monthly cost (RMB)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food</td>
<td>1,200</td>
</tr>
<tr>
<td>Local transport</td>
<td>300</td>
</tr>
<tr>
<td>Personal expenditure (e.g. medical expenses, telephone bills and laundry)</td>
<td>1000</td>
</tr>
<tr>
<td>Sightseeing</td>
<td>300 – 500</td>
</tr>
<tr>
<td>Total</td>
<td>3000 or above</td>
</tr>
</tbody>
</table>
**Appendix C: Pre-departure Checklist**

Once you receive a letter of acceptance from us, you can start preparing for your exciting summer in Nanjing. Below is a checklist that helps students remember the many steps required in preparing for their international experience.

### Arrival/Departure

- [ ] Apply for an entry permit to Mainland of China
- [ ] Check with airline the free weight limit of baggage and restrictions before packing
- [ ] Make your travel arrangements
- [ ] Obtain a student visa or other document for country of study
- [ ] Make sure you have a passport that is valid for 6 months beyond the planned return date
- [ ] Bring Letter of Acceptance issued by NUST (You may be asked to present this letter for inspection upon entry to Mainland of China)
- [ ] Attach your entry permit to Exit-entry Permit for Travelling to and from Mainland of China before travelling to Nanjing
- [ ] Bring our Student Identity Card
- [ ] An address, useful telephone numbers and travel instructions to your final destination

### Money

- [ ] Some currency
- [ ] Arrange traveler’s cheques or bank draft to transfer your funds to a financial institution in the country of destination
- [ ] Documentary evidence that you have enough money while studying
- [ ] Arrange for emergency funds

### Health and Insurance

- [ ] Arrange an insurance policy inclusive of travel and health insurance that will cover the entire period of your stay in Nanjing
- [ ] Carry enough prescription medication to last the summer camp. Plus a letter from your doctor explaining what they are
- [ ] A list of what you are carrying in your luggage in case you have to make an insurance claim
- [ ] Contingency contact of the insurance
- [ ] Bring a copy of your insurance policy with you and leave the original with your family