NUS SoC UROP Briefing

AY 13/14 Sem I

Presented by KAN Min-Yen
Assisted by Nur Arifah bte Mukaral
(Revised 10 Oct)
Warning

Make sure you are viewing the correct slide deck that is applicable to the semester for which you are considering starting UROP, as requirements may change.

This deck is for AY 13/14 Sem I, presented on 9 Oct, for prospective students choosing UROP to start in AY 13/14 Sem II, updated 10 Oct, after the briefing.

Slides: bit.ly/16sQidQ
Objective

Allows undergraduates to participate in active research and to experience first hand the challenges and exhilaration of research, discovery and invention.

Typically, research involves these activities:
- Problem formulation;
- Literature survey;
- Attending research seminars;
- Proposal and implementation of solutions and their evaluation; and
- Documentation and presentation of results.

Slides: bit.ly/16sQidQ
UROP @ SoC

Modules

● CP3208: Undergraduate Research in Computing I
● CP3209: Undergraduate Research in Computing II

Prerequisites

● Completed at least 60MC
● Approval of CS/IS department
● Minimum CAP of 3.8

Two Options

● 2 semester UROP: CP3208 & CP3209 (8MC)
● 1 semester UROP: CP3208 (4MC)
  ○ Can be done during special term
  ○ Can continue with CP4101 (Final Year Project)

Slides: bit.ly/16sQidQ
Evaluation - CP 3208/9 Track

50% Continuous Assessment (Supervisor)

- 5% Written literature review or tutorial presentation (CP3208, around Week 8)
- 5% Written progress report (CP3208 end of semester)
- 10% Oral presentation of progress to supervisor/research group (CP3209, around Week 8)
- 30% Understanding, formulation and execution, as demonstrated throughout the project and in the progress/final reports (CP3209, end of semester)

50% Final report and oral presentation

- Two independent examiners
Evaluation - CP 3208 Track

50% Continuous Assessment (Supervisor)
- 10% Written literature review or tutorial presentation (Around Week 8)
- 40% Final Report and Overall Performance (40%) (End of semester)

50% Final report and oral presentation
- Two independent examiners
Schedule (Sem I AY13/14)

30 September 2013: UROP application open

● Put in your application form to the General Office (Mdm Nur Arifah)
● You will be informed when it is approved
● Once approved, get the project assignment form signed by your supervisor and hand in to Mdm Nur Arifah

8 November 2013: UROP application close
Finding Projects

Approach the professors!

● Browse UROP project list at https://mysoc.nus.edu.sg/~projadm/

You can also propose your own project. You will still need to find a professor to supervise you.
<table>
<thead>
<tr>
<th>Project ID</th>
<th>Title</th>
<th>Advisor</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>U100050</td>
<td>Control and Command Systems for Autonomous Underwater Systems</td>
<td>ctkan</td>
<td>CP3208 + CP3209</td>
</tr>
<tr>
<td>U041030</td>
<td>Soundscapes for Electric Motorcycles</td>
<td>henz</td>
<td>CP3208 in semester 1 or 2, CP3208 + CP3209, CP3208 in special semester</td>
</tr>
<tr>
<td>U175060</td>
<td>Analyzing the impact of the social structure of developer networks on software development innovation</td>
<td>jungpil</td>
<td>CP3208 in semester 1 or 2, CP3208 + CP3209</td>
</tr>
<tr>
<td>U175070</td>
<td>Understanding Crowdfunding -- what works, and what doesn't</td>
<td>jungpil</td>
<td>CP3208 in semester 1 or 2, CP3208 + CP3209</td>
</tr>
<tr>
<td>U079420</td>
<td>Network Informal Language Corpus Analysis</td>
<td>kanmy</td>
<td>CP3208 + CP3209</td>
</tr>
<tr>
<td>U079430</td>
<td>Citation Typing</td>
<td>kanmy</td>
<td>CP3208 + CP3209</td>
</tr>
<tr>
<td>U038510</td>
<td>Algorithms for the Genome Sorting Problem [CB]</td>
<td>leonghw</td>
<td>CP3208 + CP3209</td>
</tr>
<tr>
<td>U038520</td>
<td>Detecting Protein Clusters from PPI Networks [CB]</td>
<td>leonghw</td>
<td>CP3208 + CP3209</td>
</tr>
<tr>
<td>U038530</td>
<td>Extending BBH-LS Ortholog Assignment Algorithm for Group-to-Group Orthologs [CB]</td>
<td>leonghw</td>
<td>CP3208 + CP3209</td>
</tr>
<tr>
<td>U038540</td>
<td>Projects on Combinatorial Optimization</td>
<td>leonghw</td>
<td>CP3208 + CP3209</td>
</tr>
<tr>
<td>U056010</td>
<td>Opportunistic mobile computing: Detection of daily living activities</td>
<td>punghk</td>
<td>CP3208 in semester 1 or 2, CP3208 + CP3209</td>
</tr>
<tr>
<td>U091170</td>
<td>Re-engineering the memory hierarchy with non-volatile memory</td>
<td>tayyc</td>
<td>CP3208 + CP3209</td>
</tr>
<tr>
<td>U091180</td>
<td>Using an equation to speed up cache simulations</td>
<td>tayyc</td>
<td>CP3208 in semester 1 or 2, CP3208 + CP3209, CP3208 in special semester</td>
</tr>
<tr>
<td>U091190</td>
<td>On modeling 2-dimensional and 2-level caches</td>
<td>tayyc</td>
<td>CP3208 in semester 1 or 2, CP3208 + CP3209, CP3208 in special semester</td>
</tr>
<tr>
<td>U114190</td>
<td>Evaluating the false positive rates of gene expression profile analysis approaches</td>
<td>wongls</td>
<td>CP3208 in semester 1 or 2, CP3208 in special semester</td>
</tr>
<tr>
<td>U114200</td>
<td>Rapid hypothesis testing and exploration</td>
<td>wongls</td>
<td>CP3208 in semester 1 or 2, CP3208 + CP3209, CP3208 in special semester</td>
</tr>
</tbody>
</table>
Support

We provide the following for each UROP student:

- B&W paper quota 50 pages
- Colour paper quota 20 pages
- A1 Poster

See [https://docs.comp.nus.edu.sg/node/1732](https://docs.comp.nus.edu.sg/node/1732)

In addition, each project is given a budget of $50 for small items (claim through supervisor with receipts)
Exemptions

- For students who started UROP prior to AY2013-2014 Semester II:
  For Computer Science (CS) programme, students in the Turing Programme, CP3208 and CP3209 is allowed to replace CS3201 and CS3202 Software Engineering Project or CS3281 and CS3282 Thematic Systems Project under the restriction that the project contains significant programming content (subject to approval of UROP coordinator). This exemption is not applicable to students in the von Neumann Programme.

- For students who started UROP in AY2013-2014 Semester II onwards:
  For Computer Science (CS) programme, students in the Turing Programme, CP3208 and CP3209 is allowed to replace CS3281 and CS3282 Thematic Systems Project under the restriction that the project contains significant programming content (subject to approval of UROP coordinator). This exemption is not applicable to students in the von Neumann Programme.

- For the Computational Biology programme, CP3208 and CP3209 is allowed to replace up to two level-3 electives under the restriction that the UROP project must in the computational biology area (subject to approval of UROP coordinator).

- For the Communications and Media programme, CP3208 and CP3209 is allowed to replace CS4201/CS4202 Interactive Systems Project, CS4203/CS4204 Game Development Project, or CS3281/CS3282 Thematic Systems Project except for students in Concurrent programme with Carnegie Mellon University under the restriction that the project is in the media area (subject to approval of UROP coordinator).
“UROP is an interesting opportunity for undergraduates to extensively explore and gain insight into a particular topic of Computer Science. Doing UROP also helps us to have a rough idea of what research in CS is like, and to improve many skills, such as problem solving, communication and writing.”

Mr Nguyen Truong Duy

Computing Bounds on Quantum Probabilities
Winner of Outstanding Undergraduate Researcher Prize for AY12-13
Supervisor: Dr Stephanie Wehner
“UROP gives me the opportunity to work on an exciting cutting-edge research project. I really enjoy the meaningful experience working on the project. For those who loves challenges in doing research, UROP is the way to go.”

Mr Harta Wijaya

Statistical Machine Translation
Supervisor: A/P Ng Hwee Tou
Contact Information

http://special.comp.nus.edu.sg/urop/

Coordinator: A/P KAN Min-Yen
<kanmy@comp.nus.edu.sg>, 05-12, AS6

Administrator: Mdm Nur Arifah
<arifah@comp.nus.edu.sg>, UG Office

Thank you!
Reminder: Applications close 8 November