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**Guidelines for Taking
ICS 606 (Independent Research)
ICS 701 & ICS 702 (Directed Research I and II)**

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Guidelines for Taking ICS 606 (Independent Research)

ICS 606 is a three-credit course which enables a Masters' student to conduct an independent research of a topic under the supervision of a faculty member. This course is offered as a separate section for each faculty-student. The course is graded on a Pass or Fail basis (i.e. the possible grades are NP and NF).

1. General Rules

1. The course is counted as regular 3 credit hour load for the student in which student may get either NP or NF.
2. The course shall be counted as an additional teaching load for the faculty; however, it should not be counted to meet the minimum regular teaching faculty load set by the department.
3. Course work shall be devoted to 100% research activities.
4. The student cannot take the course in his first semester, or if his current GPA is below 3.0.
5. Course instructors shall maintain evidence of assessment and submit it to the Department when the grades are submitted towards the end of the semester.
6. Course students should publicly present their findings before grades are submitted.
7. ICS/SWE/SIA 606 shall be offered in regular semesters. Summer is not included.
8. Successful offering process of the course expands three phases: Preparation Phase, Offering Phase, and Evaluation Phase.
9. The department graduate committee will be responsible for handling all types of disagreement.
10. A faculty member can supervise a maximum of three students in one semester for all the three research-based courses (ICS 606 or ICS 701 or ICS 702).

2. Preparation Phase

1. The activity of this phase shall be completed in the semester prior to the offering semester.
 2. The instructor should submit the proposal to the graduate coordinator and CC the chairman no later than week 15 of a regular semester.
3. The course instructor and the student shall agree on a topic that shall be covered during their intended ICS/SWE/SIA 606 effort.
4. A research proposal shall be prepared highlighting the following points:
 - a. Research area
 - b. Description of the research topic
 - c. Weekly breakdown of research activities covering the entire 15 weeks of a semester.
 - d. Deliverables (e.g. publications, experimental results ... etc.).
 - e. A literature survey cannot be accepted as the only deliverable.
 - f. Assessment Plan that shall contain clear targets for achieving NP.
5. The plan is required to be approved by the Graduate Committee of the department and reported to the Deanship of Graduate Studies. The only outcomes of Department review is "Approved" or "Not Approved".

3. Offering Phase

1. Based on the "Approved" outcome of the Preparation Phase, a specific section of ICS/SWE/SIA 606 will be created for the faculty-student pair in the course offering list in the semester subsequent to the semester in which the approval was granted.

2. The offered section will carry the name of the Faculty as the instructor.
3. The offered section will have only one seat.
4. The student may register in the section during the normal registration and/or add/drop periods.

4. Evaluation Phase

1. The student should submit a report on his work to the department in the last week of classes (week 15).
2. The student should present his work to a committee formed by the department; the committee shall provide a report to the instructor.
3. The instructor should publicly announce the date, time and location of the presentation. If more than one instructor is offering the course, a coordinator among them will be selected to coordinate the public presentations for all students.
4. The instructor assigns NP or NF based on the students work during the semester, the report and the presentation; taking into consideration comments raised in the public presentation as well as comments by the department committee, if any.

Guidelines for Taking ICS 701 And ICS 702 (Directed Research I & II)

ICS 701 and ICS 702 are intended to allow PhD students to conduct research in advanced problems in their research areas. The course is offered as a separate section for each faculty-student. The course is graded on a Pass or Fail basis (i.e. the possible grades are NP and NF).

1. General Rules

1. The course is counted as regular 3 credit hour load for the student in which student may get either NP or NF.
2. The course shall be counted as an additional teaching load for the faculty, however, it should not be counted to meet the minimum regular teaching faculty load set by the department.
3. Course work shall be devoted to 100% research activities.
4. The student cannot take the course in his first semester, or if his current GPA is below 3.0.
5. Course instructors shall maintain evidences of assessment and submit it to the Department when the grades are submitted towards the end of the semester.
6. Course students should publicly present their findings before grades are submitted.
7. ICS 701/702 shall be offered in regular semesters. Summer is not included.
8. ICS 7101/702 cannot be used to satisfy the 600-level course requirements for PhD students.
9. Successful offering process of the course expands three phases: Preparation Phase, Offering Phase, and Evaluation Phase.
10. The department graduate committee will be responsible for handling all types of disagreement.
11. A faculty member can supervise a maximum of three students in one semester for all the three research-based courses (ICS 606 or ICS 701 or ICS 702).
12. ICS 701 and ICS 702 should not be taken in the same semester.

2. Preparation Phase

1. The activity of this phase shall be completed in the semester prior to the offering semester.
2. The instructor should submit the proposal to the graduate coordinator and CC the chairman no later than week 15 of a regular semester.
3. The course instructor and the student shall agree on a topic that shall be covered during their intended an ICS 701/702 effort.
4. A research proposal shall be prepared highlighting the following points:
 - a. Research area
 - b. Description of the research topic
 - c. Weekly breakdown of research activities covering the entire 15 weeks of a semester.
 - d. Deliverables (e.g. publications, experimental results ... etc.).
 - e. A literature survey cannot be accepted as the only deliverable.
 - f. Assessment Plan that shall contain clear targets for achieving NP.
5. The plan is required to be approved by the Graduate Committee of the department and reported to the Deanship of Graduate Studies. The only outcomes of Department review is "Approved" or "Not Approved".

3. Offering Phase

1. Based on the "Approved" outcome of the Preparation Phase, a specific section of ICS 701/702 will be created for the faculty-student pair in the course offering list in the semester subsequent to the semester in which the approval was granted.
2. The offered section will carry the name of the Faculty as the instructor.
3. The offered section will have only one seat.
4. The student may register in the section during the normal registration and/or add/drop periods.

4. Evaluation Phase

1. The student should submit a report on his work to the department in the last week of classes (week 15).
2. The student should present his work to a committee formed by the department; the committee shall provide a report to the instructor.
3. The instructor should publicly announce the date, time and location of the presentation. If more than one instructor is offering the course, a coordinator among them will be selected to coordinate the public presentations for all students.
4. The instructor assigns NP or NF based on the students work during the semester, the report and the presentation; taking into consideration comments raised in the public presentation as well as comments by the Department Graduate Committee, if any.

Proposal Template

The Independent Research proposal should be a brief 2-3 pages document highlighting the following points:

1. **Cover page (Title and Name)**
2. **Summary:** A brief description the intended research, its importance, and its expected contribution.
3. **Introduction and Background:** A brief background of the proposed research explaining its importance and scope. A description of the expected results and their significance should also be provided.
4. **Study Objectives:** A clear and concise statement and/or list of objectives of the proposed research. The objectives should be precisely and clearly defined. The objectives should be coherent, realistic, and measurable through deliverables.
5. **Proposed Work:** Brief information of the research work/activities to be undertaken and a description of how the research issues/questions raised by the proposal would be tackled.
6. **Methodology:** A brief description of the scientific steps to be taken to achieve the objectives. The technical approach to tack the problem should be included.
7. **Expected Outcomes:** A clear and concise statement and/or list of the expected real, tangible and measurable outcomes of the proposed research should be included. This should include clear targets for achieving NP. Examples of deliverables include publications, experimental results, etc. A literature survey cannot be accepted as the only deliverable.
8. **Study Plan:** Weekly breakdown of research activities covering the entire 15 weeks of a semester.
9. **Initial Bibliography**

Proposal Evaluation Guidelines and Criteria

1. The Evaluation should focus on the merit of the effort rather than the soundness of the technicality.
2. The Evaluation should critique in a constructive way.
3. The evaluator should make sure of the following:
 - a. There is no significant overlap between the proposed work and any previous work by the proposers or by others.
 - b. The proposal meets the requirements stated in the independent research guidelines
 - c. The final report should be in a form of a publishable manuscript with all necessary components.