THE UNIVERSITY OF HONG KONG
FACULTY OF BUSINESS AND ECONOMICS

MKTG3524 Digital Marketing
2019-2020, Semester 2

COURSE SYLLABUS

I. Information on Instructors and Teaching Assistant:
   Instructor: Dr. Jayson JIA
   https://www.fbe.hku.hk/people/academic/jayson-shi-jia
   Email: jjia@hku.hk
   Phone Number: 3917-1611
   Office Location: KK Leung Building 717
   Teaching Assistant:
   Email:
   Phone Number: 3917-4490
   Office Location: KK Leung Building 609
   Office Hours: By appointment (no tutorials)

II. Class Time:
   Tuesday: 13:30-16:20 for 2A, Thursday: 13:30-16:20 for 2B – both at KB 111
   In addition, students must meet group members outside of classroom time to work on their group
   projects and group exercises (need to eventually form groups of ~4).

III. Course General Information:
   Course Description
   The digital economy has fundamentally altered the nature of and the scope for understanding human
   behavior and business practices. This course decomposes developments in digital marketing into
   three fundamental dimensions; time, space, and connections. In exploring these areas, we cover the
   concepts, theories, and applications of big data in behavioral sciences and marketing, with the
   overarching goal of understanding how to utilize digital data to derive deeper and more meaningful
   behavioral, scientific, and managerial insights. Substantive topics include: digital advertising, smart
   marketing analysis, social network analysis, digital experimentation, social media and digital
   branding, mobile marketing, human mobility, digital platforms and channels, and digital consumer
   behavior. Lectures, discussions, live data-analysis demonstrations, class data exercises, video pieces,
   real world cases (including many from the Chinese market), and student-led project presentations are
   major class components.

   Course Prerequisite
   This course is designed for students with a marketing background with an interest in digital and data-
   driven marketing. A background in marketing/social science research is useful but not required. An
   introductory level of statistics is necessary. Students with no statistics background are expected to
   learn linear regression and other basic statistics concepts/tools in their own time. However, necessary
   software, analytics tools, and statistical methods will be overviewed in class.
   Course pre-requisites: BUSI1004 Marketing / MKTG2501 Introduction to Marketing
Note on learning philosophy

To future-proof your education, this class has a strong emphasis on understanding the data-driven research methods in basic social science (i.e., general behavioral research rather than just marketing research), which form the conceptual basis for digital marketing. This knowledge will remain relevant even after existing technologies, platforms, and firms become obsolete. The major emphasis of this class is to learn how to interpret, understand, and think about data from digital platforms from a behavioral science perspective in order to generate behavioral and marketing insight and strategy. The class, much like actual digital marketing, is interdisciplinary and covers topics ranging from temporal data to social networks to digital experimentation, and draws from scholarly disciplines ranging from sociology to psychology to economics.

This is a seminar-style class, requiring extensive reading, classroom data analysis, and your active participation. Since the goal of the class is to convey a conceptual understanding of digital marketing and data, students will be most rewarded by pro-active learning from exercises, active class-room participation, and steady studying. Students will find they will acquire applied skills from understanding how to successfully apply scientific concepts and knowledge to marketing and business contexts.

Required books/reading:

   *Can be read online for free at: https://www.bitbybitbook.com/
4. Other assigned readings are articles available for download from the class Moodle.

IV. Course learning outcomes.

CLO1: Understand the role of individual-level customer/behavioral data in digital economy.
CLO2: Introductory understanding of using individual-level data to generate behavioral insight
CLO3: Understand how digital technologies and platforms can be transformed to effective marketing strategies and to capture consumer behavior.
CLO4: Identify and evaluate the opportunities and problems that the commercial Internet and digital platforms presents to marketing.
CLO5: Apply the knowledge and skills in analyzing contemporary marketing cases
CLO6: Apply the knowledge and skills to develop digital marketing research and strategy.

V. Course Objectives:

1. To build a conceptual understanding of the marketing science behind online and digital marketing
2. To discuss and learn the scientific and marketing ideas, theories, and methodologies underpinning the modern study of digital / consumer behavior/data.
3. To understand how digital data and Internet technologies changes marketing.
4. To apply the knowledge and skills in developing Internet/digital marketing strategy.

V. Program Learning Outcomes (PLOs):

PLO1: Acquisition and internalization of knowledge of the programme discipline
PLO2: Application and integration of knowledge
PLO3: Inculcating empirically-driven decision making as a professional and leader
PLO4: Developing data-driven but behaviorally-minded outlook
PLO5: Mastering communication skills
VI. Course Learning Outcomes (CLO):

<table>
<thead>
<tr>
<th>Course Learning Outcomes (CLO)</th>
<th>Alignment with Program Learning Outcomes* (PLO)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLO1. Describe fundamental social science concepts, theories, and technologies relating to</td>
<td>PLO1,2,3,4</td>
</tr>
<tr>
<td>CLO2. Examine and analyze consumers’ behaviors in online and digital environments</td>
<td>PLO1,2,3,4</td>
</tr>
<tr>
<td>CLO3. Explain how Internet and digital technologies can be transformed to effective marketing tactics and strategies</td>
<td>PLO1,2,3,4</td>
</tr>
<tr>
<td>CLO4. Identify and evaluate the opportunities and problems that the Internet/digital economy presents to marketing</td>
<td>PLO1,2,3,4</td>
</tr>
<tr>
<td>CLO5. Apply the knowledge and skills in analyzing cases about marketing on the commercial Internet / digital platforms</td>
<td>PLO1,2,3,4</td>
</tr>
<tr>
<td>CLO6. Apply the knowledge and skills by practicing digital marketing plan development</td>
<td>PLO1,2,3,4,5</td>
</tr>
</tbody>
</table>

VII. Teaching and Learning Activities (TLA):

<table>
<thead>
<tr>
<th>Teaching and Learning Activities</th>
<th>Expected Contact Time (approximate)</th>
<th>Study Load (approximate)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TLA1: Interactive Lectures with Discussions/Class Exercises</td>
<td>36 hrs</td>
<td>26%</td>
</tr>
<tr>
<td>TLA2: Self-study: reading and preparing class discussion</td>
<td>36 hrs</td>
<td>26%</td>
</tr>
<tr>
<td>TLA3: Group study / homework assignments/data exercises</td>
<td>20 hrs</td>
<td>14%</td>
</tr>
<tr>
<td>TLA3: Final Project – Presentation and Paper</td>
<td>48 hrs</td>
<td>34%</td>
</tr>
<tr>
<td>Total:</td>
<td>140 hrs</td>
<td>100%</td>
</tr>
</tbody>
</table>

TLA1: Interactive Lectures with Discussions/Class Work

- Interactive lectures will be provided by the instructor to illustrate and reinforce key marketing concepts and principles. Students are expected to have pre-class reading and preparations and encouraged to share their views and experience actively in class discussions to deepen their learning.

- Scientific research from social and data sciences and examples of company cases/videos/applied marketing scenarios will be integrated in the lectures and class discussions. Students will be challenged to view marketing from different perspectives (e.g., consumer, company, competitors) to enhance their critical thinking skills.

- Individual and group exercises during class time will be conducted to develop and reinforce theoretical understanding of material. These will focus on developing a deeper understanding of conceptual ideas via hands on class-room engagement with digital/internet data.

- Class work will be used to deepen students’ learning and develop their application capability on specific topics. Students are expected to address issues posted in these class exercises and share their thoughts in class. Verbal/written feedback from lecturer, peer, and/or self will be used to facilitate continuous learning.

TLA4: Self Study

- For each class students are expected to have pre-class reading (including the assigned textbook chapters and supplementary materials) and preparations for class discussions/activities.

- Readings are mandatory. Previous week’s readings will be discussed as part of class.

- It is important to have a good grasp of the technical material. Helpful ‘how to guides’ will be distributed to the class so that students can master new analysis and software at their own pace.

- Students are also expected to review and integrate the learned marketing topics for their case study, marketing plan project, and final examination.
TLA2: Homework Assignments + Group Exercises
- Grading is pass/fail.
- 1 page data analyses exercises that combine learning useful types of analysis (e.g., drawing social network graphs, sentiment analysis, etc.) with concepts introduced by the week’s readings. This is to ensure critical learning and thought is applied to the assigned readings, which will be a combination of basic science research and an applied data scenarios.
- This dual approach will encourage deeper theoretical understanding of material and also teach students how to apply basic science findings in analytical or applied contexts.
- Some but not all homework exercises will be group work.

TLA3: Final Project: Digital Marketing Plan
- Group new product/service marketing plan project will allow students to go through the steps of the marketing planning process from the perspective of a marketing manager/entrepreneur and integrate the learned digital marketing concepts and analysis techniques in an applied business situation.
- Major goals:
  - to promote students’ active learning
  - to develop students’ skills on critical thinking, analytical, and problem-solving
  - to stimulate students’ creativity
  - to enhance students’ skills on communication, presentation, and teamwork
- Project Background and Requirements:
  - Build a digital marketing strategy (including technical analysis) for an existing firm that needs to avoid disruption.
  - (Alternatively, students may also choose to create a new space or digitally disrupt incumbent businesses, e.g., pitch a ‘start-up’, but this will by nature be more difficult)
  - Each group will first select a company and proposing how to use digital/big data methodologies covered in the class, suggest marketing solutions, and make recommendations that leverage concepts, frameworks, and thinking learned in class. Project should still be relevant for a firm’s strategic and market situation.
  - Project should focus on material learned in this class (90%)
  - There is a major emphasis (>50%) on data analysis, methodology, and applying concepts learned in this class: projects with zero analysis (e.g., social network, smart data) will not receive a passing grade. We will create a class dataset together throughout the semester that you can use for analysis.
  - Each group is required to (1) make a 20 minute group marketing plan presentation in class followed by a 5-minute Q&A session and (2) submit a group written marketing plan report (15 pages, Times New Roman 12, double spacing, plus supporting materials, graphs, and visualizations)
  - Individual groups can seek instructor’s feedback on its presentation performance and areas for improvement after the completion of group presentation.
  - Groups may refer to the frequently-asked questions FAQ page posted on the course Moodle for more information about the group marketing plan project.

VIII. Assessment Tasks (AT):
Students will be assessed by a combination of the group work (50%) and individual work (50%). The table below indicates the weighting for each assessment task and the alignment of assessment tasks with teaching and learning activities and course learning outcomes:

<table>
<thead>
<tr>
<th>Assessment Tasks (AT)</th>
<th>Weights</th>
<th>Teaching and Learning Activities (TLA)</th>
<th>Course Learning Outcomes (CLO)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AT1: In-class Participation</td>
<td>5%</td>
<td>TLA1, TLA2, TLA3, TLA4</td>
<td>CLO1, CLO2, CLO3, CLO4</td>
</tr>
<tr>
<td>AT2: Exercises and assignments (start in class, finish for homework)</td>
<td>15%</td>
<td>TLA1, TLA2, TLA3, TLA4</td>
<td>CLO1, CLO2, CLO3, CLO4</td>
</tr>
<tr>
<td>AT3: Test (midterm individual assessment)</td>
<td>20%</td>
<td>TLA1, TLA2, TLA3, TLA4</td>
<td>CLO1, CLO2, CLO3, CLO4</td>
</tr>
<tr>
<td>AT4: Group Project</td>
<td>60%</td>
<td>TLA1, TLA2</td>
<td>CLO1, CLO2, CLO3, CLO4</td>
</tr>
</tbody>
</table>
Peer Evaluation for Group Work:
- In normal cases, individual group members receive the same total score for their group’s score. However, in some cases, individual group members’ scores will be adjusted depending on their efforts, performance, and contributions to the group work based on an end-of-semester Self and Peer Evaluation Form (online anonymous survey).

AT1: Class Participation (5%)
- Students are expected to prepare for each class by completing pre-class assigned reading materials and works and actively participate and contribute to the class discussions and activities.
- If students have missed a class, they are responsible for everything taught or announced in the class on the day of their absence. No make-up arrangement can be made for any missing class activities.
- With the purpose of continuous learning and improvement, the assessment of class participation is regarded in this course as an assessment for learning. Students are expected to (1) prepare for the pop-up class work by studying and integrating the learned knowledge in class and assigned readings, and (2) reflect on the self-learning strategy and effectiveness in the group process in the mid and/or end of the course.
- Class Participation will be assessed against the following criteria: (1) clarity and accuracy of responses in class discussions and activities and (2) frequency and quality of class contribution.

AT2: Student homework assignments (15%)
- Start-in-class/finish-at-home assignments will be set for 2 methodological aspects (smart data usage and social network analysis) of the class to ensure that students understand how to use appropriate class-room taught techniques and software (Gephi, free to download, and SPSS, available in our computer labs).
- Assignments will be graded on a pass/fail basis: 0 or a ‘check’. A bonus check-plus grade may be awarded to outstanding assignments.

AT3: Test (20%)
The in midterm class test will be cumulative of material taught up to date of exam. Students are responsible for all the materials covered thus far in the course. The exam will be used to assess students’ (1) understanding of key principles and concepts, (2) application of the learned knowledge and skills in critical marketing/social science issues, and (3) recommending solutions relevant to the contexts.

Students will be allowed to bring one A4 sheet (2 sides) of handwritten notes (no photocopies allowed).

Methodological questions may ask for some basic calculations and/or ask students to interpret data, e.g., experiment results, linear regression results, or social network graphs/data.

Longer-answer questions will be used to evaluate students’ ability to integrate and apply the learned knowledge and skills to identify marketing and scientific problems and critical issues, compare, contrast, and evaluate alternatives, and/or recommend solutions relevant to the contexts. The responses to the longer questions will be assessed against the accuracy, thoroughness, clarity, and organization of the responses to the required questions.

AT4: Internet Marketing Plan Project (60%)
- Goal of project is to use ideas and methods learned in class about digital marketing to change an existing organization with a limited digital strategy OR to solve an existing business/social problem. You can even choose a non-business or non-profit related project.
- Final project will be used to assess students’ ability to (1) obtain and integrate relevant information to understand and analyze marketing/behavioral situations, (2) identify critical issues, problems, and opportunities in ill-defined/novel situations, and (3) apply relevant findings and appropriate digital approaches, tools, and concepts to recommend implementation plans of marketing strategies and programs specific to the contexts with considerations of social responsibility and ethical issues. The effectiveness of presentation and written communication will also be assessed.
Each group will be required to create a powerpoint for the assigned case (a firm or sector of their choice). The group case study report should include:
1. Marketing problems or key strategic decisions to be made
2. Analysis and evaluation of critical issues using concepts and methodologies learned in class
3. Strategic use of methodologies is the most important part of the exercise. Usage of smart data and relevant analytics (e.g., social network analysis, index creation) will be graded on logic of proposed methodology, and not necessarily results.
4. Data collection from fellow students will be required (instructor will organize this throughout the semester so that we build a dataset of the classroom together).
5. Recommendations using analysis and strategic frameworks from class/readings
6. Lead classroom discussion and be responsible for encouraging and facilitating high quality audience engagement on topics of their choice.
7. Group member assessments will be conducted at the end of the year to punish free-riders.

The group project consists of oral presentation (50%) and written report (50%) will be assessed against the following criteria with specific weightings indicated in the table below:

<table>
<thead>
<tr>
<th>Assessment Criteria for Group New Product/Service Marketing Plan Project</th>
<th>Group Oral Presentation (100%) (a summary of key analyses)</th>
<th>Group Written Report (100%) (full version with details)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conceptual: Application of concepts and theories</td>
<td>30%</td>
<td>30%</td>
</tr>
<tr>
<td>Methodological/Analytical: Application of methodologies (data analytics, social network analysis, etc.)</td>
<td>30%</td>
<td>30%</td>
</tr>
<tr>
<td>Application/Recommendations: Applying frameworks to generate insight and valuable strategic conclusions/recommendations</td>
<td>30%</td>
<td>30%</td>
</tr>
<tr>
<td>Effectiveness of presentation/writing</td>
<td>10%</td>
<td>10%</td>
</tr>
<tr>
<td>Total:</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

IX. Standards for Assessment:

**Course Final Grade:**
Individual student’s final grade for the course will be assigned according to the accumulative score that s/he has obtained from all of the assessment tasks:

Course Final Grade = Class Participation (10%) + Homework/Exercises (10%) + Test (30%) + Group Marketing Plan: Presentation (25%) + Paper/report (25%)

<table>
<thead>
<tr>
<th>Course Final Grade</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A+, A, A-</td>
<td>Consistently demonstrate a thorough grasp of the subject as evidenced by achieving an outstanding performance in understanding of marketing principles and concepts, critical analysis and synthesis, application of knowledge, formulation of marketing solutions, written and verbal communication and teamwork skills.</td>
</tr>
<tr>
<td>B+, B, B-</td>
<td>Frequently demonstrate a substantial grasp of the subject as evidenced by achieving a proficient performance in understanding of marketing principles and concepts, critical analysis and evaluation, application of knowledge, formulation of marketing solutions, written and verbal communication and teamwork skills.</td>
</tr>
<tr>
<td>C+, C, C-</td>
<td>Occasionally demonstrate a general grasp of the subject as evidenced by achieving a moderate performance in understanding of marketing principles and concepts, analysis and evaluation, application of knowledge, formulation of marketing solutions, written and verbal communication and teamwork skills.</td>
</tr>
<tr>
<td>D+, D</td>
<td>Demonstrate a partial grasp of the subject as evidenced by achieving an adequate performance in understanding of marketing principles and concepts, analysis and evaluation, application of knowledge, formulation of marketing solutions, written and verbal communication and teamwork skills.</td>
</tr>
<tr>
<td>F</td>
<td>Demonstrate a poor grasp of the subject as evidenced by achieving a poor performance in understanding of marketing principles and concepts, analysis and evaluation, application of knowledge, formulation of marketing solutions, written and verbal communication</td>
</tr>
</tbody>
</table>
X. Course Policies

**Late Assignment Penalty:**
- All assignments are required to be submitted on or before the specified due date and time to the assignment submission destination. The penalty policy for any late assignments will be as follows:

<table>
<thead>
<tr>
<th>No. of days later than the due date:</th>
<th>Deduction of the total point</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 day</td>
<td>deduct 25%</td>
</tr>
<tr>
<td>2 days</td>
<td>deduct 50%</td>
</tr>
<tr>
<td>3 days</td>
<td>deduct 100%</td>
</tr>
</tbody>
</table>

**HKU Regulations on Academic Dishonesty:**
We are serious in students’ ethical conducts. The University Regulations on academic dishonesty will be strictly enforced.

- We do not tolerate students engaging in academic dishonesty which includes, but is not necessarily limited to, plagiarism, paraphrasing of someone else's ideas, unauthorized collaboration on out-of-class projects, cheating on in-class exams, and unauthorized advance access to an exam
- Students are expected to be aware of what plagiarism is and how to avoid it. Please refer to the HKU policies on plagiarism.
- Students should also be familiar with the HKU regulations and policies particularly on attendance, absence, examination, and copyright. Please refer to the HKU Undergraduate Student Handbook and HKU Examination Unit webpage.

XI. Additional Course Information

**Moodle Course Web Site:**
- Students are expected to access the Moodle course frequently for learning supports and new announcements.

**Turnitin Check:**
- Students should avoid plagiarism and have proper citations for their work. Students’ written assignments and reports will be sent to the Turnitin for originality check.

Additional Information on assigned projects will be uploaded throughout the semester
### XII Provisional Class Schedule (subject to change)

<table>
<thead>
<tr>
<th>Class</th>
<th>Topics</th>
</tr>
</thead>
</table>
| Lesson 1       | **Course Introduction and Overview**  
                  **Digital Money Machines: Data-driven Advertising and Service Platforms** |
| **Required Reading:** |  
                  • *Bit by Bit*, Chapter 1 (Introduction), pp. 1-11 (Online Sections 1.1-1.4)  
                  • *Reality Mining*: Chapter 1 (pp. 9-30) |
| **Homework:**   |  
                  1) Access software that can run linear regressions. E.g., Excel’s minitab, SPSS, Statas. These should all be available in the school’s computer lab as well. We start using them next lesson.  
                  We will only be doing very simple analysis, but if you have completely forgotten linear regression, here is a refresher:  
                  [https://www.youtube.com/watch?v=owI7zxCqNY0](https://www.youtube.com/watch?v=owI7zxCqNY0) |
| **Optional Reading:** |  
| Lunar New Year Week |  
                  Lesson 2  
                  **Temporal Behavior and Reality mining: Search data, content mining, and applications** |
| **Individual Assignments:** |  
                  1. Fill in class survey (today!) *submit by midnight – will count as homework credit  
                  2. Combine Google or Baidu trend index with another source of data (not from google search) – discuss possible relationships between the two – Share next class.  
                  3. Install Gephi: test that it works, if not, please contact IT staff |
| **Required Reading:** |  
                  4. *Bit by Bit*, Chapter 2 (Observing Behavior), pp. 13-61 (Sections 2.1-2.5)  
                  5. *Reality Mining*: Chapter 8 (pp. 125-140) |
| **Optional Reading:** |  


### Lesson 3

**Social Networks 1: Structure of Relationships and Diffusion**

**Individual Assignment:**
- Draw basic class social network with you at the center (i.e., re-arrange graph so that you are at the center), and report following calculations about yourself: degree centrality, eigenvector centrality, betweenness centrality.

**Required Readings:**
- *Connected*: Chapter 1, 2, and 3

### Lesson 4

**Social Networks 2: Network Evolution, Community Networks, and Applications**

**Homework:**
1) **Individual homework:** Draw class social network again, this time a) incorporate one or more of the survey questions in the graph (e.g., as node data, coloring, etc.), and b) cluster the social network graph into communities (based on modularity or by using a survey question). Briefly discuss what the graph shows and insights you can draw on segmentation of the class.

**Required Readings:**
- *Connected*: Chapter 4-5
- *Reality Mining*: Chapter 4 (pp. 69-81)

### Lesson 5

**Mobile and Mobility Marketing**

*Present survey results and network graph from Lesson 4/Social Network 2 homework Lottery Drawings for presentation order (trading allowed)*

**Group Homework:**
Analyze mobility dataset

**Required Reading:**
- *Reality Mining*: Chapter 2 (pp. 31-50) and Chapter 6 (pp. 99-108)

**Optional Reading:**

### Lesson 6

**Test** (In class 1.5 hours) - 1 double-sided A4 of handwritten notes allowed

**Reading/Field Trip Week – Work on proposals**

### Lesson 7

**Connected CRM**

*Present mobility analysis in class*
### Group homework:
Come up with a 1-question survey to measure a DV (e.g., behavior, preference, individual characteristic) that you can combine with the social network data: 1 per group.

*Hint:* questions can be used as size of node (i.e., telling us something about that individual) or as a node color (i.e., as a means of grouping or categorizing people). If you’re really advanced you can figure out how to combine survey questions and use inter-correlations as edge data.

### Required Reading:
- *Connected*: Chapters 8-9
- *Reality Mining*: Chapter 9 (pp. 143-152)

### Optional Reading:

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**Lesson 8**

**Digital Experimentation**

**Individual Assignment:**
1) Regression analysis of a natural experiment on search
2) Fill in class survey on googlesheet*

*Timely participation in class surveys WILL BE GRADED throughout semester

**Required Reading:**
- *Bit by Bit*, Chapter 4 (Running Experiments), pp. 147-188 only (Sections 4.1-4.5.4)
- Skim: (to get an idea of business applications)
- *Reality Mining*: Chapter 9 (pp. 143-152)

**Optional Reading:**

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**Lesson 9**

**Social Media and Digital Brand Management**

**Group Homework:**
- Write a 0.5 page report and summary on a live streamer of your choice; note how they engage their audience and how they could fit in a brand’s portfolio.
- Work on presentations

**Recommended Reading:**

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**Lesson 10**

**Channels, Platforms, and Techno-social systems**

**Assignment for rest of semester:** work on final project
### Recommended Reading:

### Lesson 11
#### A Time-Space-Connected Framework for big-data marketing strategy

**Homework:**
Work on presentations

**Optional Readings:** (guides for generating strategy frameworks for final project)

### Lesson 12, 13
#### Final Project Presentations

Final Papers Due 12:00pm May 7 electronic AND paper copy (in assigned drop box on 7th floor KKL building)