LESSON PLAN 1st

1. Faculty/ Study Program : FMIPA/ Chemistry
2. Course & Code : Organic Chemistry 2;KI
3. Credit : 3 sks
4. Semester and time : IV, time : 2 x 50 menit
5. Basic competence : Students are able to use and apply a concept of classify organic compounds, basic mechanism in organic
6. Indicator : Students are able to use and apply a concept of classify organic compounds for identify physical and chemical properties 
Student are able to explain some basic mechanism in organic
7. Essential Concepts : Explains a concept of classify organic compounds and basic mechanism in organic

8. Activity

<table>
<thead>
<tr>
<th>Component</th>
<th>Detail Activity</th>
<th>Time</th>
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<th>Media</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Opening</td>
<td>Lecturer explains the objective of the course and motivates students related to topic</td>
<td>10</td>
<td></td>
<td></td>
<td>A.1; 2 B. 1;2</td>
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</tbody>
</table>
| Main Activities | Lecturer explains the introduction of a concept of classify organic compounds and basic mechanism in organic | 70   | Explanati-  
Discussion, team work | Power poin, Computer, LCD          |                 |
|             | Lecturer explain the usage of a concept of classify organic compounds and basic mechanism in organic |      |                  |                           |                 |
|             | Students do the same thing in their class and discuss in a group for exercise some problems |      |                  |                           |                 |
|             | Lecturer facilitates the students to get further information about some features in the library |      |                  |                           |                 |
| Closure     | Student and lecturer concludes todays topic                                     | 10   |                  |                           |                 |
| Follow up   | Lecturer gives assignment                                                       | 10   |                  |                           |                 |
9. Assessment:
1. Draw the structure of a single bond, a double bond, and a triple bond
2. Predict the hybridization and geometry of the atoms in a molecule.
3. Identify the classes of organic compounds containing functional groups, and draw structural formulas for examples.
4. Explain some mechanism reaction of organic compound: free radical; addition; substitution
5. Describe the structures of carbocations, carbanions, free radicals, and carbenes, and the structural features that stabilize them. Explain which are electrophilic and which are nucleophilic.

10. Assignment

11. REFERENCES
A. Compulsory:
   1. Handout Kimia Organik 2

B. Additional

Yogyakarta, Agst, 23, 2011

Lecturer

Prof. Dr. Sri Atun
LESSON PLAN 2\textsuperscript{nd}

1. Faculty/ Study Program : FMIPA/ Chemistry
2. Course & Code : Organic Chemistry 2;
3. Credit : 3 sks
4. Semester and time : IV, time : 2 x 50 menit
5. Basic competence : Students are able to use and apply a concept, structure, nomenclature, physical properties, and reaction of carbonyl compounds (aldehydes and ketones)
6. Indicator : a. Students are able to use and apply a concept, structure, nomenclature, physical properties for identify aldehydes and ketones  
   b. Students are able to explain some reaction of carbonyl compounds
7. Essential Concepts : Explains a concept of structure, physical properties, and reaction of carbonyl compounds (aldehydes and ketones)
8. Activity

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<td>Main Activities</td>
<td>Lecturer explains the introduction of a concept structure, nomenclature; physical properties, and reaction of carbonyl compounds (aldehydes and ketones)</td>
<td>80</td>
<td>Explanation</td>
<td>Power poin, Computer, LCD</td>
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<tr>
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<td>Lecturer explain some reaction of aldehydes and ketones</td>
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<td>Discussion, team work</td>
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<tr>
<td>Closure</td>
<td>Student and lecturer concludes today's topic</td>
<td>5'</td>
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<tr>
<td>Follow up</td>
<td>Lecturer gives assignment</td>
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9. Assessment:
1. Give the IUPAC name for each compounds:
   1) \((\text{CH}_3)_2\text{CHCH}_2\text{CH}=\text{O}\)
   2) \(\text{CH}_2\text{CH}==\text{CH}-\text{CH}=\text{O}\)
   3) \((\text{CH}_3)_2\text{CHCH}_2\text{COCH}_3\)
   4) \(\text{CH}_2\text{BrCOCH}_3\)

2. Write structure for each compounds:
   1) pentanal
   2) 2-pentanone
   3) \(\rho\)-bromobenzaldehyde
   4) \(\tau\)-butil metal keton
   5) 2-oktanone
   6) benzyl fenil keton
   7) 3-metilsikloheksanon

3. Write reaction sequences that explain these transformations:
   1) sikloheksanon + NaCΞCH
   2) siklopentanon + HCN
   3) 2-butanon + NH\(_2\)OH/ H\(^+\)
   4) p-tolualdehid + benzilamin
   5) propanal + fenilhidrazin

10. Assignment
    Please answer the problem in the textbook: J.L Wade, jR, page 837-838

11. REFERENCES
A. Compulsory:
   1. Handout Kimia Organik 2

B. Additional

   Yogyakarta, Agst, 23, 2011

   Lecturer

   Prof.Dr. Sri Atun
LESSON PLAN 3th

1. Faculty/ Study Program : FMIPA/ Chemistry
2. Course & Code : Organic Chemistry 2;
3. Credit : 3 sks
4. Semester and time : IV, time : 2 x 50 menit
5. Basic competence : Students are able to use and apply a concept, structure, nomenclature, physical properties, and reaction of carbonyl compounds aldehydes and ketones
6. Indicator : a. Students are able to use and apply a concept for synthesis aldehydes and ketones
   b. Students are able to explain some reaction of carbonyl compounds with ammonia
7. Essential Concepts : Explains a concept of structure, physical properties, and reaction of carbonyl compounds (aldehydes and ketones)
8. Activity

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9. Assessment:

1. Show how the following transformations may be accomplished in good yield. You may use any additional reagents that are needed:
   1) bromobenzene → propiophenon
   2) pentanoic acid → 3-heptanon
3) toluene → benzyl cyclopentyl ketone  
4) CH$_3$CH$_2$CN → 3-heptanone  

2. Depending on the reaction conditions, two different imines of formula C$_8$H$_9$N might be formed by the reaction of benzaldehyde with methylamine. Explain and give the structure of the two imines.

10. Assignment  
   Please answer the problem in the textbook: J.L Wade, jR, problem 18-25 page 821

11. REFERENCES  
A. Compulsory :  
   1. Handout Kimia Organik 2  
B. Additional  

Yogyakarta, Agst, 23, 2011  

Lecturer  

Prof.Dr. Sri Atun
LESSON PLAN 4th

1. Faculty/ Study Program : FMIPA/ Chemistry
2. Course & Code : Organic Chemistry 2
3. Credit : 3 sks
4. Semester and time : IV, time : 2 x 50 menit
5. Basic competence : Students are able to use and apply a concept, structure, nomenclature, physical properties, and reaction of carbonyl compounds (aldehydes and ketones)
6. Indicator : 
   a. Students are able to use and apply a concept for synthesis of aldehydes and ketones 
   b. Students are able to explain some reaction of carbonyl compounds with amonia
7. Essential Concepts : Explains a concept of structure, physical properties, and reaction of carbonyl compounds (aldehydes and ketones)
8. Activity

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9. Assessment:
   1. Show how the following reaction of:
      1) propanon + amonia
      2) pentanal + amonia
2. Explains mechanism reaction of oxidation alcohol primer, secunder, and tersier with $\text{KMnO}_4$/$\text{H}_2\text{SO}_4$

10. Assignment
   Please answer the problem in the textbook: J.L Wade, jR, problem 18-25 page 823

11. REFERENCES
   A. Compulsory:
   1. Handout Kimia Organik 2

   B. Additional

Yogyakarta, Agst, 23, 2011
Lecturer
Prof.Dr. Sri Atun
LESSON PLAN 5\textsuperscript{th}

1. Faculty/ Study Program : FMIPA/ Chemistry
2. Course & Code : Organic Chemistry 2;
3. Credit : 3 sks
4. Semester and time : IV, time : 2 \times 50 \text{ menit} \\
5. Basic competence : Students are able to use and apply a concept, structure, nomenclature, physical properties, and reaction of carbonyl compounds aldehydes and ketones
6. Indicator : \begin{itemize}
\item a. Students are able to use and apply a concept for aldol condensation
\item b. Students are able to explain some reaction of aldol condensation
\end{itemize}
7. Essential Concepts : Explains a concept of aldol condensations
8. Activity

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9. Assessment:
   1. Please write the aldol condensation reaction in below:

   ![Aldol Condensation Reactions Diagram]

10. Assignment
    Please you explains mechanism of Claisen condensation

11. REFERENCES
    A. Compulsory :
        1. Handout Kimia Organik 2

    B. Additional

Yogyakarta, Agst 23, 2011

Lecturer

Prof.Dr. Sri Atun