

# OBJECT ORIENTED WEB PROGRAMMING USING RUBY

*Course Study Guide*

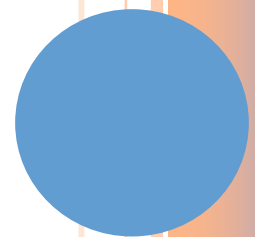
*Japanese subject name:*

*Ruby 言語によるオブジェクト指向WEB 設計*

This material is guidance to you, not the contents of the lectures but the guidance such as how to submit reports and how your scores are evaluated, etc.

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(Version 1.0) 12/04/12



# Object Oriented WEB Programming Using Ruby

## *Course Study Guide*

This material is guidance to you, not the contents of the lectures but the guidance such as how to submit reports and how your scores are evaluated, etc.

To the beginning, for the convenience of explanation, the theme of lessons is explained.

## << THEME OF LESSONS >>

When we say “we do ‘internet,’” actually it means we open WEB pages through internet. With those WEB pages, we can access to database, and as the result we can reserve concert tickets, purchase furniture, and communicate with friends in the specific members’ space. The aim of the lessons is to create those WEB pages. This course is an advanced study, continued from “Web system development by ruby on rails.”

### FROM SYLLABUS

#### << Theme of Lessons >>

An attainment target is to be able to create WEB+DB system which you imagined. We study a system configuration and a technique such as log-in authentication, uploading and downloading files, input with menu, and the multilingual support. We learn ‘ruby,’ the Japanese-born object oriented language. The grammar of ruby is more deeply studied than in the previous semester. A general understanding of ruby language is incorporated as a theme of this lecture.

## << ATTAINMENT TARGET >>

The target is simple; you can say, “Yes, I can create WEB pages like this page!”

### FROM SYLLABUS

#### << Attainment Target >>

The aim is to be capable of explaining how to construct WEB application. By understanding the database structure, the goal is to become capable of designing and constructing simple database system in the web environment.

# << OUTLINE AND METHOD >>

Since a target is "being able to make the WEB site (WEB+DB system) using a database", it becomes an exercise lesson.

Generally, explanations and instructions will be given in the first 30 to 60 minutes according to the contents, and then students will exercise in the remaining 30 to 60 minutes. During the exercise, the lecturer and the teaching assistants will see everyone's progress, answer the questions from students, and shoot the troubles of the exercise.

## FROM SYLLABUS

<< Outline and Method >>

This lecture is a practice. It succeed the lecture of "Web System programming by Ruby on Rails" in the previous semester. Fundamental contents are already introduced in the lecture of the previous semester.

In the extended study in this semester, we practically learn the program how to realize WEB systems which are often seen in the actual WEB sites.

# << EVALUATION >>

Since this subject is a practice, reports have greater weight in the evaluation. Firstly, let's see how a failure is scored.

If your attendance is below 60%: You receive "E" Evaluation.  
(You are outside of the precise evaluation.)

If you attended more than 60% of the lessons, and your evaluation is below 60%:  
You receive "D" Evaluation. (Failure)

If you attended the lectures, but no or few submission of reports are recorded, your evaluation would be "D". **Even if you attended all the lessons, when no report is submitted, your study evaluation is maximum 15 points out of 100 points** according to the criterion of the syllabus. When you are evaluated as "D" or "E", you cannot get through with credit.

When you get "success", your score is given as the sum of weighted average of the "contribution to the class" and the grade points of reports according to the syllabus, and evaluated from "A+" to "C".

## FROM SYLLABUS

<< Evaluation >>

Based on the contribution to a class(30%) and reports (70%) of a product (program). All exercises and subject programs are to be included in reports. These practice subjects are counted as "base scores".

# [ ATTENDANCE ]

Record your attendance, with the card reader of each classroom.  
This record is correctable from a teacher's reference screen, as shown in the figure 1.

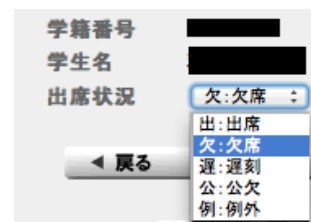


Figure 1

## << TREATMENT OF ABSENCE >>

- ※ Public transportation facilities, stopped.
- ※ Bereavement leave.
- ※ Since attending a lesson was troublesome, rested.
- ※ Entering a competition, as a member of university team. (official leave)
- ※ Sent to hospital because of severe illness or an injury.

As a general rule, "Absence Report Theme" is set up for an each lesson. Regardless the cause of absence was inevitable or not, all the students who were absent from a certain lesson, should submit the "absence report" for the lesson. If it were an "official leave," by submitting the "proof of attending the competition" and such, your record is corrected to be "the official leave."

With this recording system, "Attendance", "Official leave", and "Late" are scored as an "Attendance." "Absence" and "Exception" are scored as "absent." With the rule of evaluation as explained above, if you did not attend the classes more than 60%, you will become "outside of evaluation." Therefore, if you were absent from the classes, you must submit the "absence report." Whatever you explain, I cannot judge what had been the truth. So your claim of "inevitable absence" and "absence from self-indulgence" are not made any difference.

On the other hand, if you submitted "absence report" for all lessons, and never appeared to the class, still you are treated as "attended all the lessons." The contents equivalent to attendance of a lesson are incorporated in the "absence report subject." I think solving the absence reports by yourself is far better than just to attend the lessons and sleep in the class.

## <<HOW TO SUBMIT ABSENCE REPORT>>

Submit an absence subject from the "H'études" WEB system, like the ordinary subject report. However, only when you cannot submit reports through the WEB system, you can attach the report to an E-mail. Lecturer's E-mail address will be given during the guidance session.

Lecturer's E-Mail Address:

# [ HOW TO SUBMIT REPORTS ]

Submit your reports through H'etudes\*<sup>1</sup>, the course assist system. It looks like the figure show in the right.

The Japanese course names are shown in the tabs. The Japanese name of this subject is “Ruby 言語によるオブジェクト指向 WEB 設計”, so choose the tab of this subject name graphically.

A report must be **ONE file** for each lesson.

**Never** submit all the screen shots, program files, environment files and such into the subject folder which is assigned to you, as show in the Figure 3.

Even if you are required to report the source program, just submitting the source code is not the report to show that you “comprehended” the theme. Some additional explanation is required.

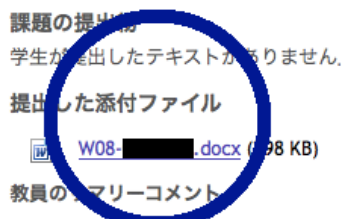


Figure 4 All the related files should be compiled into one document file.



Figure 2 H'etudes Screen



Figure 3 Do not submit related files separately. Report must be compiled into one file.

<sup>1</sup> <https://hcms.hosei.ac.jp/portal>

## << REPORT FILE NAME >>

### << ORDINARY REPORTS >>

File name should be Onn-XXTXXXX[-m].ZZZ. Where,

The Initial 1 Letter: O

2<sup>nd</sup> to 3<sup>rd</sup> Letter: nn – The number of the lesson.

4<sup>th</sup> letter : - (minus, hyphen)

XXTXXXX: Student number

When you submit 2<sup>nd</sup> report for the lesson, add “-m”. “m” is the serial number.

ZZZ: file name extension which indicates the file type (doc, docx, odt, ZIP, and such.)

Document file format: should be one of the following;

OpenOffice.org Writer document (extension: odt)

MS-WORD document (extension: doc, or docx)

When you ignored the report file naming rule, it may be considered as a demerit mark. Or it may not be graded at all, when you ignored the rule repeatedly.

Example of Good file name:  W06-10K3456.docx

W07-10K4567-2.docx (2<sup>nd</sup> report)

Example of Bad file name:  1st-report-of-ruby.doc

OOWeb-john-smith-1st.ZIP

### << ABSENCE REPORTS >>

File name should be Onn-Absent-XXTXXXX[-m].ZZZ.

Example of Good file name:  O06-Absent-12T3456.docx

### << E-MAIL ATTACHED REPORTS >>

When you cannot eliminate errors and you are suggested to submit screen shots and source files by the lecturer or teaching assistants, compress the folder which contains all the related files into ZIP format<sup>2</sup> file, and attach it to an e-mail to the lecturer.

File name should be Onn-XXTXXXX.ZIP.

Example of Good file name:  O06-12T3456.zip

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<sup>2</sup> Specify keywords such as “file compress, ZIP,” and investigate with the internet, and so on.

# << HOW TO WRITE REPORT >>

## TEMPLATE

There are some templates for Microsoft Word (Extension doc and docx) and OpenOffice.org (extension odt) in the Learning Assist System, H'etudes.

Use this header for your reports. A cover page is not required. You may start your text just below the heading area.

Think the most suitable title of the subject for the lesson, and write it in the "Title" area.

It is desirable to write your comment of the practice and the report subject. Write your comment not in the WEB site shown in Figure 6, but in the heading area of your report file.

Scores, and lecturer's comment for the report are returned via H'etudes WEB Learning Assist System.

Object Oriented Web Programming using Ruby Day ( )		[ID No. XXXXXXXX]
ID Number		Name
Day	Lecture date	(Thu)
	Submit date	
Title		
Impression of the theme.		
Start your report here.		

Figure 5 Use this heading area of template files, to write your report file.

説明  
See the lecture slide for the details of report theme.

提出  
提出文  
この課題では、下のテキストボックスと添付ファイルの提出ができます。テキストボックスにコメントを入力し、他のファイルを含める場  
ファイルを追加してください。作業後は忘れずに提出してください。

Please do not write your comment here!

Figure 6: H'etudes WEB report submission screen has a text input area for comment. Please do not use this area, but the comment area of report heading area.

## REPORT EVALUATION

Rank "S" : The contents far more exceed the examiner's anticipation, or the consideration of the operations and/or the behavior of the system is deep, and especially excellent.

Rank "A": Originality and the essential understandings are felt from all subjects of the report.

Rank "B": Individual efforts are done for some exercises, and the contents are almost properly described.

Rank "C": Fundamental minimum requirements are fulfilled.

Rank "D": Recorded as "once submitted", but no score is given. (Resubmit the report.)

## SAMPLE OF RANK "D"

Figure 7 is the sample of the report which needs to be re-submitted. It only shows the WEB screen copy without any explanation or with little explanation such as "following picture appeared on the screen," and such. Even if the Windows Frame is shown in the screen shots, the evaluation is the same.

You need to report what source program you have written and what kind of results come up to the screen together, even though the screen is obviously the result of the lesson exercise. Your explanation is really important. (But still, it is better than submit nothing. In some case, you may get Rank "C" only with the screen shots.)

## SAMPLE OF RANK "C"

Figure 8 is the sample of Rank "C" report. **Please include your desktop wallpaper in the screen shot** of the report so that we could know that the report is surely written by you!

In this report, the practice theme was "to change the background color and the title picture." The report showed almost perfect execution result, so why the report received Rank "C" evaluation? The reason: it did not contain any program code or the explanation of the program code. The report should contain the explanation such as, "this part of the program was modified to this."

The expression of a report theme usually is quite simple, as "report the screen shots after this operation," and such. However, you should guess and think carefully about what are to be reported. If the report contains minimum contents, the rank evaluation of the report too is the minimum.

課題名	
感想 (本人記載)	

WEBに以下の画像が表示された



Figure 7: The sample of the report which needs to be re-submitted.

WEB+日自システム入門 レポート (第6回) 学生証番号 [REDACTED] (氏名不詳)

学生証番号	[REDACTED]	氏名	[REDACTED]
第 5 回	出題 5月29日(木)	提出日:	6月 1日
課題名	第6回課題		
		評価	

実行結果

実行結果

実行結果

スクライドの通りにやってみました。C:\windows\のところに日本語は表示されず、画像の上にも文字も表示されていません。ですが、メニューは中身をかえることはできました。

Figure 8: Sample of Rank "C" report.



## SAMPLE OF RANK "B"

Figure 9 is the sample of Rank "B" report. The theme was "to report the normalization of database." Sometimes, the report theme could be completed only by investigating with the internet and/or textbooks. And the contents of the report had been felt like just a little bit extended than the minimum expression, so the report was ranked as "B." (Very sensitive feeling)

When the practice theme requires the program modification and coding, the list of source code is necessary for Rank "B" evaluation. On the other words, **if the related source code is shown in the report, the report will get Rank "B" evaluation.** But when once ALL the source codes had been attached, not knowing which part had been closely related to the theme practice, the report failed to get Rank "B."

Rank "B" evaluation is, something like "medium rare" of steak, not "well done," or not "rare," but the middle. It is not "excellent" or not "poor," but the middle, so "fair." Rank "B" evaluation is often the result of the elimination method, such that it is not rank "A" or not rank "C." It is hard to tell the evaluation standard.

## SAMPLE OF RANK "A"

Figure 10 is the sample of Rank "A" report. **The report mentioned the precise procedure of the operation to get the result.** We can trace the path "by doing like this, the result was like this." Also the screen shots are attached as the final result. It contained the complete path, so the report obtained the Rank "A" evaluation.

(In Figure 10, wallpaper is excluded, but the original report contained the desktop wallpaper.)

Figure 11 indicated the modification with the underline. It was regrettable that no explanation was given at underlines. But the report with the source code of the related part and the full explanation of what those source codes mean is the standard of Rank "A" report.

- データベースの正規化  
正規化とは、データの冗長性を少なくして、関連性の強いデータ項目（属性）をまとめる、一事実一箇所（1 fact in 1 place）になるようにすることである。全テーブルのデータを分析し、効率化されたリレーションを作成するため、適切な正規化が行われたテーブル構造は、使用時のパフォーマンスを向上させる。また、データ量を最小限に抑え、データの重複を防ぐ効果もある。  
第一正規化…すべての属性が異なる値をもっている状態  
第二正規化…キーとなる列の値を決め、他の列の値が決まる様にテーブルを分割した状態  
第三正規化…主キーとなる列以外の値によって、他の列の値が決まらない状態にテーブルを分割した状態

Figure 9: Sample of Rank "B" report.

まず、コンソールに  
Ruby script¥generate model User  
と打ち込む。これにより migrate フォルダの中身に 005\_create\_user  
これを rake db:migrate コマンドで反映させる。



Figure 10: Sample of Rank "A" report (1).

```
# POST /memos
# POST /memos.xml
def create
  @memo = Memo.new(params[:memo])

  respond_to do |format|
    if @memo.save
      flash[:notice] = "Memo was successfully created."
      format.html { redirect_to(@memo) }
      format.xml { render :xml => @memo, :status => :created, :location => @memo }
    else
      format.html { render :action => "new" }
      format.xml { render :xml => @memo.errors, :status => :unprocessable_entity }
    end
  end
end

# PUT /memos/1
# PUT /memos/1.xml
```

Figure 11: Sample of Rank "A" report (2)

## SAMPLE OF RANK “S”

In figure 12, the source code modification parts are extracted. Indentation is good, and easy to read. If there are also the screen shots before and after the modification attached, and/or with the words balloon of explanation, the report would have been perfect.

・該当する「分類」のメモが存在しない場合の画面を整理してください。(見出しだけの表は不要)

```

1 <% $page_title = 'Listing memos' %>
2
3 <% if @memos.size==0 then %>
4 メモは登録されていません。
5 <% end %>
6
7 <table>
8
9 <font color="#006699">
10 <tr><th>Text</th>
11 <th>Location</th>
12 <th>分類</th>
13 <th>Created_at</th>
14 </tr>
15 </font>
16
17 <% for memo in @memos %>
18 <tr>
19 <td><h>memo.text %></td>
20 <td><h>memo.location %></td>
21 <td><h>memo.category.name %></td>
22 <td><h>memo.created_at %></td>
23

```

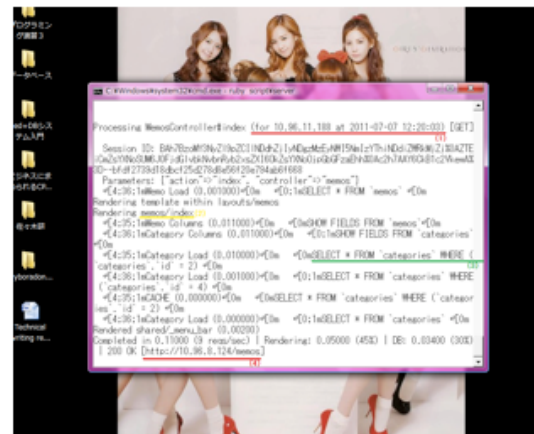
図6 search.html.erbの先頭部分の変更点

Figure 12: The sample of Rank “S” report (1).

Figure 13 is the sample of Rank “S” report, too. For this report, “the explanation of console screen messages” is required. With colored underlines, the meanings of each message are explained. It had obtained the target. **The report contained the explanation as intelligibly as possible on the point he/she had understood.** This point was the key for Rank “S” evaluation.

The “S” evaluation report is not necessary “thick.” When the vital point is covered, even the short report with 3 or 4 pages may obtain Rank “S” evaluation.

WEB+DB システム入門 レポート (第 11 回) 学生証番号 [REDACTED]



- (1) アクセスしてきた PC の IP アドレス, at アクセスしてきた時間
- (2) index でレンダリング
- (3) 要求を受けて実行した SQL.
- (4) 自分の IP アドレス

## SAMPLE OF RANK “SS”

Although rarely happens, some laborious reports are evaluated as Rank “SS.”

It may obtain 11points or 12 points out of 10 points! The following report is a part of the Rank “SS” report. This student constructed “Tirol Chocolate Database.” Tirol Chocolate is a Japanese famous candy of which wrapping papers and flavors are variegated.

また図 9 のチロルチョコの name の部分をクリックするとそのチロルチョコの他のフィールドの情報を見ることができる。その部分のソースコードは以下の図 10 で図 11 に図 9 のチロルチョコの name、ミルクをクリックした場合に表示される画面を示す。

```
<td>  
<%= link_to tirol.name, tirol %>  
</td>
```

図 10 チロルチョコの name を表示する部分のソースコード



図 11 チロルチョコの詳細

### ⑦分類(味)の検索

分類(味)を選択して選択ボタンを押すとその分類(味)のチロルチョコだけの一覧を表示する。図 12 は分類(味)「おいしい」を指定して選択ボタンを押した場合の一覧表示であり、図 13 は分類(味)「微妙」を指定して選択ボタンを押した場合の一覧表示である。(分類「微妙」のチロルチョコは登録されていない)。