IMGD 2500 – Term D 2015
Design of Tabletop Strategy Games

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IMGD 2500 focuses on designing contemporary strategy games ("eurogames"). We will also discuss the play of hex and counter board wargames. We would need a separate course to cover wargame design. This course on Eurogame design is close to being internationally unique. I can readily find via the web college courses on computer aspects of computer game design, on art aspects of computer game design, and even on management aspects of computer game design, not to mention courses on the history and typology of computer games. If you look for courses on the content of game design, you don't find a great deal. Indeed, little that resembles IMGD 2500 has ever been taught before.

The primary objective of this course is to teach game design by designing tabletop strategy games. During the course, you and several classmates will design, fabricate, and test a board game. I do not expect a finished commercially-saleable product in the available time. I do expect you will march through all elements of the design process, to the point that further iterations of the same process would get you an acceptable commercial game or a decision that the prototype did not merit further development.

The secondary objective of this course is to open your minds to the vast range of media, patterns of play, and design elements that have historically been included in real games. I use board games to teach design because board games have no coding and only limited artwork. By studying the design of board games, you can focus on design itself.

The course is based on the lectures, readings, extensive writing, two exams, your *Design Notebook*, and a *Design Project*. There will be seven laboratories, about 20 lectures, and two one-hour examinations. The readings will be taken from my books *Designing Modern Strategy Games*, *Modern Perspectives on Game Design*, *Designing Board Wargames–Introduction*, *Stalingrad for Beginners*, and *Stalingrad Replayed*. The homework will include an extensive series of writing problems and a few art assignments. Your Design Notebook will be collected and graded. If you do not create and keep a design notebook, you will not pass the course.

The keystone of the course is the design and testing of a board game. The game will be collected and graded at the end of the course. In order to test a game, it must be sufficiently complete, well before the end of the term, that other people can playtest it. Remember, you are WPI students. The expectation is six hours a week in class, and therefore 10-15 hours a week outside of class, leading to the WPI Plan-intended 15-20 hours per class per week total.

In the distant past, I allowed people to design whatever they wanted. As a learning experience, that approach worked badly. For starters, the quality of playtesting was weak, because playtest groups had never seen anything like the game that they were now playtesting. I am therefore giving you a series of game specifications. The game you are designing is not 'the professor's favorite type of game'. That's *Tactics Pi*. No, you are designing a game that is likely to give a good learning experience and hopefully be a good game, too.

It is humanly impossible for me to grade thirty games – one game per student – and submit grades in a timely way. You are therefore to cluster yourselves into groups of four people. Each cluster is to produce one game and test several others. *Designing Modern Strategy Games* gives you projects that you could turn into a game.

Here are my design specifications. Each game must: (i) have an exploration element, (ii) have a *multi-level* economic/commercial element, (iii) be suitable for four players, (iv) have an explicit cooperative element, a major victory condition that must be jointly satisfied by all the players or they will lose, (v) have an explicit competitive element, a way of determining who won. (vi) have an explicit interactive element between players, e.g., trading, and (vii) take 2-3 hours to play or reliably take under 1.5 hours to play. A simple tech tree is required, for a very broad interpretation of "tech".

I am placing a restriction on the game's theme. A game may not have any military element, criminal or

law enforcement element, hunting element, or intelligent animals. Dueling trees are also not allowed, though that game was reasonably successful. If your ideas on games stop with first person shooters and *Risk*, you are about to have your consciousness raised. There is more to life than warfare.

In order to design a game, have it properly playtested, and introduce all of you to effective play testing, we must stay on a very strict time schedule. Being late with a game development assignment means you did not do your assignment, and the people depending on you are in trouble, too.

Grades On homework, I assign named grades: Excellent, Very Good, Good, Fair, and Poor. There is also the "Epic Fail", performance so bad that it tries to lower your final grade all by itself. Hopefully I will not need to assign any of these. "Epic Fail" grades are canceled by "Brilliant" grades.

How to Fail Over the years, your fellow students have invented many ingenious ways to fail the course. Here are some of the guaranteed-to-succeed methods: (i) The exams will have questions about the readings and the homework. If you can't answer them, at a level that shows you have not paid attention to the reading or lectures, you fail. (ii) There are a series of reading assignments, with writing response, extending the length of the course. If you quit doing these, for example after the mid-term, you fail the course. (iii) Fail to submit your playtest reports (labs 5-7) in time. (iv) You are required to have a design notebook. It will be collected after the final AND after the midterm. If it is not actually a design notebook, you will get an Epic Fail grade for the midterm collection, and will fail the course with the final exam collection. (iv) If you submit a game that does not meet the design requirements (use of combat, which is forbidden, is the most common issue), you will fail.

Text books and text games: The course has five textbooks, all by me. There is also software. Two books have Tom Vasel as a co-author. The co-authored books are *Modern Perspectives on Game Design* and *Designing Modern Strategy Games*. They are both available from Smashwords.com (many formats), Amazon Kindle, and Third Millennium publishing http://3mpub.com/phillies. Either edition is good. The other books are *Designing Board Wargames–Introduction*, *Stalingrad for Beginners*, and *Stalingrad Replayed*, available on Smashwords.com, Amazon Kindle, and (only *Designing*) 3MPub.com. You cannot buy the books at the book store. You will need all of them. The books together cost slightly more than the sales tax on some physics text books.

The course also has four games. Between you, each design group needs to buy all four of them, namely *Carcassonne*, *Puerto Rico*,*Conquest of the Fallen Land*, and *Brass*. These are four-player games, so for this course you each need to buy one game at most. If you can find a copy (out of print), the game *Vanished Planet* is a fine substitute for *Brass*.

The software is all free. You need ZunTzu, available from zuntzu.com, or Vassal (VassalEngine.org), and the *Stalingrad* module. Vassal has a screen-capture feature that may be helpful for submitting homework.

Laboratory Details of the Game Design Project are on a separate page. In the first four labs, you will play the four commercial games that you are buying. The objective of playing *Carcassonne* and *Puerto Rico* is to develop your understanding of play testing. Play of the other games is intended to familiarize you with games with cooperative features and more complex economics. The last three lab sessions are for playtesting the games that you will develop in this course. In lab five, you will present and playtest your game. In lab six, the game with complete written rules will be playtested. Lab seven will be the blind playtest. Lab exercises will be appropriate for groups of three or four students. In the first four weeks, lab groups do not have to match design groups. The final three weeks are playtests; lab groups must match design groups. You are allowed to playtest outside of lab and are well advised to do so.

Interactions You will each do your own homework solutions. Most solutions involve written answers. A reasonable answer is typically a page and a half, typed. Game rules absolutely must be in clear, grammatical English. I will therefore be grading writing at least as much as I will be grading content. **I insist that all written solutions be submitted using 12 point type, double-spaced.** If there is a lab report, **you will each write your own report**. Some aspects of game play testing are qualitative. "Qualitative" is not a synonym of "vague". Ceasing to submit homework after the midterm will lead to failing the course.

In some years past, I started posting on the blackboard some of the more spectacular grammatical failures. Trussed knot thigh spiel chequer. "Its" and "It's" are not the same word. Plurals and possessives are not the same. "Because of the fact that" and "It was discussed that" are sound pieces of evidence...that the author is a functional illiterate who cannot write at the fifth grade level.

You will form clusters to design games. You have the privilege of vetting potential cluster members before agreeing to work with them. If you join a cluster with three people who have never heard of grammar or spelling, and who believe that everything should be done at the very last minute, it is possible that you will have an educational experience of a different sort, and would be well advised to flee. The person who wants to tell other people what to do, and wants to ask questions but never provide answers, is a good target for vetting. I really am here to teach game design, not group dynamics. Group reshuffles and breakups are tolerable, better than the group some years back in which one member claimed on the final exam 'my two team mates and I play tested this a great deal until the last minute, and it works perfectly', a second member claimed 'I kept telling the other people that we should try play testing it, and they said I was wrong', and the third team member would have written 'I dropped from this course after week two' if he had still been there. Oh, gee, I just told you what a question on the final was going to be.

Design Notebook A design notebook is a permanently bound set of pages, blank or lined, 8.5×11 or so, in which you record your thoughts, images, etc. related to game design, in particular game design related to this course, such as design decisions, challenges, etc. on your design projects. Recording other stuff is good! You should make a point of dating entries, and perhaps supplying a few tags and an index. **Note that you are allowed to use your design notebook and nothing else during the Examinations.** I am entirely supportive of people in the art concentration using unlined paper. However, I have to haul these around, so you are required stay with notebooks no larger than 11x11". After the midterm, and on the last day of the course, I will collect notebooks. They will be part of your final grade.

No notebook, no pass the course. A few sheets of paper is not a design notebook. Your course notebook for all your courses is not a design notebook. A notebook with lecture notes, interleaved homework sets, but no sign that you ever thought about design yourself is not a design notebook.

If you are actually interested in Game Design, Game Development, Art, ... you will maintain a design notebook. My good friend, the late Sid Sackson, who was the greatest board game designer in the history of the United States, maintained them for every year he worked. He viewed them as critical to his success. If you are an artist, you will be judged on your portfolio. A portfolio that is what you did in a few classes, and no sign of 'I sketched this beautiful leaf I saw while eating lunch at the fountain, because it is actually a camouflaged micromecha, complete with underside view', will provide powerful evidence of your qualifications. Unless your classwork is at the Raphael level, the evidence will be negative.

Kunst Yes, there is some need for artwork in a pre-production game. How do you learn how to do art? If all else fails, try copying what you find in museums or elsewhere. Worcester has a fine art museum. I especially call your attention to the Hudson Valley and French Academy schools; Japanese anime is cliched, except for a total inability to draw the human face. If you are trying to learn writing, writing is good. Retyping the words of someone who is a good writer, like making a brushstroke copy of a great painting, may be of some assistance.

Resources

Books There are five course textbooks. *Modern Perspectives on Game Design* and *Designing Modern Strategy Games* are the second editions of books that Tom Vasel and I wrote in Summer 2006. *Modern Perspectives* is a series of interviews, with homework problems on the game design process. *Designing* is in essence a book of recipe ingredients, namely descriptions of rules elements for a series of games. These books are *not sold in stores*. Over the term, you would be well advised to read all of *Modern Perspectives* and look at the thought problems corresponding to each interview. Early in the term, you should read carefully the first three chapters of *Designing Modern Strategy Games*; these are building blocks for use in your design project. The later Chapters of *Designing Modern Strategy Games* are there as a resource guide, something you can use if you want to read more detail about examples of particular play features. The texts *Stalingrad for Beginners* and *Stalingrad Replayed* are meant to introduce you to the play of hex and counter board games. There are vast numbers of hex and counter games; they contain many ingenious ideas that are potentially useful in creating computer games with military aspects. Finally, *Designing Board Wargames – Introduction* includes bunches of my more recent considerations on game design, as well as many exercises to support you in learning how to design a board wargame.

I spent some time looking for alternative books on game design, and found very little that appeared to be of any use. I call your attention to books by Sabin, Perla, and Dunnigan on board wargame design.

The Complete Wargames Handbook is available for free via the internet. As a modest aside, in the design of board war games there are two competitive ideas as to the game design objective: Perhaps the design objective is to create a design that is as accurate a simulation as possible. Perhaps the objective is to create a game that is tactically rich for both sides and that is well-balanced. You should notice that the word 'fun' did not appear as an objective. No one has ever proposed that the objective of board wargame design is 'fun'.

Games There are four games associated with the course, namely *Carcassonne*, *Puerto Rico*, *Conquest of the Fallen Land*, and *Brass*. The WPI Science Fiction Society has a game collection available to its members. These games may provide ideas. Many of the exploration and economic themes I mention are implemented in the computer game *Space Empires IV*. This game is also available as a board game, though with interesting design constraints on play. (There is now an SE Five. It is an RTS game. Please do not get me started on what I think should be done to RTS strategy game advocates.)

Internet Resources There is a vast amount of internet material. It is under-catalogued and transitory. I call your attention to ConSimWorld, BoardGameGeek and Grognard.com. Much internet material has never been analyzed syntopically, the sort of analysis seen in *Designing Modern Strategy Games*. The GeorgePhillies youtube channel has on it videos of this course, the last times I taught it, and my lectures on designing board wargames. I call your attention to *Cyberboard* cyberboard.brainiac.com, which can be a useful tool for drawing hex- and square-based boardgame maps. Cyberboard has some documentation and an active support group games.groups.yahoo.com/group/CyberBoardML. The Zuntzu and Vassal software is also of interest.

Game Project and Time Line

Each game must: (i) have an exploration element, (ii) have a *multi-level* economic/commercial element, (iii) be suitable for four players, (iv) have an explicit cooperative element, a major victory condition that must be jointly satisfied by all the players or they will lose, (v) have an explicit competitive element, a way of determining who won. (vi) have an explicit interactive element between players, e.g., trading, and (vii) take 2-3 hours to play or reliably take under 1.5 hours to play. A simple tech tree is required, for a very broad interpretation of "tech". "jointly satisfied by all the players" should be designed so that losers cannot crash the game, e.g., the point total of all the players must be at least 1000, but no requirement on distribution.

I am placing a restriction on the game's theme. A game may not have any military element, criminal or law enforcement element, hunting element, or intelligent animals. Dueling trees are also not allowed, though that game was reasonably successful. If your ideas on games stop with first person shooters and *Risk*, you are about to have your consciousness raised. There is more to life than warfare.

The play time restrictions are a hard and fast rule. It must be possible to play the game either once or twice, to completion, during a three-hour lab session.

The following is the time line with dates for your game development project. There are additional details in the Course Schedule.

March 23: Give me a list of your design group members and a sketch of the theme for your proposed game project. Also, do the 'historical research' for your game. You may be able to find some interesting rules buried in *Design Elements*.

April 10 Submit rough draft of game, with five copies of rules and charts. One copy of the components for the playtest group is adequate. Specify on the cover the target playing time, either < 1.5 hours or 2.5-3 hours, the names of the designers, and their email addresses. The rough draft may or may not be playable without an explanation. The rough drafts are redistributed to playtest groups. I get a copy of each rules set.

April 13 Each group will do a 5 minute presentation on its game. Having one person stand up and represent the group is correct. PowerPoint and other computer display tools are not allowed. If you can't speak for five minutes with a cue card, you might want to consider what you know about your project.

April 15: First playtest of rough drafts of design project games. Remember, the objective of playtesting is to expose flaws in the game design, not to win. However, trying to win is a way to expose design flaws. One member of each Design Group will play the game with the Playtest group, take the Playtest group through play, and take careful notes on what happens. Each Playtest group will be short one member, who will be off teaching the Playtest group's game to the Playtest group's game's Playtesters. Be sure you know who designed your game and what their emails are, because you are sending them a copy of your playtest report by Friday April 17. Each playtester will send his or her own report to the design group, *and* send me a copy.

April 21: Semifinal draft of each game is due in class. Include one copy of the map or tiles, the tokens or unit counters, and five copies of the rules. The semifinal drafts are redistributed to playtest groups. I get a copy of each rules set. I realize the playtest the next day is a nuisance. Blame our academic calendar.

April 22: Lab session - semifinal playtest of game. The Design Group may not talk to the Playtest group. Playtest members may give *written* questions to the Design Group and be given *written answers*. Email transmission is good.Save those questions and answers. The Playtest group will include its written questions and the answers in its next homework assignment. Be sure you know who designed your game and what their emails are, because you are sending them a copy of your playtest questions and playtest report by April 25. Send me a copy.

April 27: I will collect the final versions of the game design projects and redistribute them to the new playtest group.

April 29: Lab session ... blind playtest of final draft of game. Players may not have contact with the

Designers during play. By May 2, playtesters make their written comments on the game. One copy of the comments goes to the designers; the other copy of the comments goes to me.

May 5: By 11 A.M. sharp, meaning *before class*, you will have delivered to my office, Olin 130, the final version of your game, in a transportable box, together with all playtest comments, and written responses to each comment.

Short Summary Schedule

Lecture 1: Course in General, Characteristics of Games
Lecture 2: Play of Carcasonne, Representations
Lecture 3: LAB: Carcasonne and Variant LECTURE: How to Playtest; Quality
Lecture 4: Puerto Rico as an Example
Lecture 5: Shape and Voice
Lecture 6: Theme
Lecture 7: LAB: Puerto Rico and Its Variant.
Lecture 8: Costikyan What is a Game? A good game?
Lecture 9: Mechanism and Style; Mechanisms for the Design Project
Lecture 10: Game Mechanisms
Lecture 11: LAB: Brass.
Lecture 12: Game Mechanisms
Lecture 13: Game Mechanisms
Lecture 14: Maps and Gridding
Lecture 15: LAB: Conquest of the Fallen Land
Lecture 16: MIDTERM EXAM. **All Design Notebooks will be collected.**
Lecture 17: Student Group Presentation 1: What we are going to do.
Lecture 18: Advice of Famous Game Designers
Lecture 19: LAB: Rough Draft Game Playtest.
Lecture 20: Play of Board Wargames - Maps, Gridding, Movement.
Lecture 21: LAB: Intermediate Game Playtest
Lecture 22: Play of Board Wargames - Zone of Control, Combat.
Lecture 23: Play of Board Wargames - Replacements, Supply, Other Rules.
Lecture 24: Play of Board Wargames - Tactical Analysis; Game Parts.
Lecture 25: LAB: Final Game Playtest
Lecture 26: The tirade against technology
Lecture 27: Student Group Presentation 2: What we did.
Lecture 28: FINAL EXAM. **Games due for my grading. All Design Notebooks will be collected.**

Lab, Lecture, and Homework Schedule

March 16 Lecture 1: General Course Description. The design project. The eight basic elements of game design: Representation, Mechanisms, Style, Theme, Shape, Components, Voice, Content. Plot hooks, plots, themes, and Game Mechanics. Conquer the Internet. The Politically Correct Novel (at least if you don't want the secret police to execute and arrest you). Types of games.

Reading *Designing Board Wargames*, Chapter 2. All Books, Introduction.

Homework Before the next class, read Greg Costikyan's essay 'Don't Be a Vidiot' in *Modern Strategy....* List the types of games he identifies, for example, board war games. For each type of game, list several games of that type that you have actually played. Some of you will not have played every type of game. Some of you do not play games at all. Also, specify whether or not you have ever played any of the games you were asked to buy.

Design Project By March 24, form your game design group. Give me a written statement. The group will be given a letter, I expect A-H. Propose a theme for the game. You can always change your mind. Recall that some game features are already specified. The discussion and game design problems in *Designing* may give you some ideas. Do 'historical research' related to your game *theme*. Remember, you are focusing on game design, not historical studies. You can do more research, but for this course one good source is enough. Some common sense is needed. For example, if your game is on pirates, renting *Cuttthroat Island* from Netflix is not necessarily adequate. On the other hand, using Harland's *Seamanship* to write a 10 page rule section controlling 'turning a square rigger across the wind' is excessive.

March 17 Lecture 2: Play of *Carcasonne*. I will not be teaching you how to play each of these games. However, I will use *Carcasonne* to illustrate topics that we will discuss at length later. The eight basic elements of game design: Representation, Mechanisms, Styles, Theme, Shape, Components, Voice, Content. Carcasonne's eight elements. Representations.

Reading *Designing Board Wargames*: Chapter 2. Homework 3-B. Extra credit: Homework 3-C.

Homework Study carefully the Carcasonne rules. Be prepared to play it in lab tomorrow.

March 18 Lecture 3: Representations, continued. What is a representation, anyhow? How to Playtest. What makes a game good?

Laboratory You will play Carcassone. You will then play a Carcasonne variant, in which players hold a hand of two or three tiles (your choice), choose a tile to play, and then draw a tile to replenish their hand.

Reading *Designing Board Wargames*, Chapter 17 - The Design and Playtest process.

Lab Report, due Monday: Compare the play of the two Carcasonne rules sets in terms of factors such as playing speed, number of choices, analysis paralysis, play experience Does this new rule work? Is the new rule an improvement? Does the new rule lead to difficulties requiring additional rules? Analysis paralysis?–Player sits there trying to decide what to do.

Homework List the representations that I proposed. Can you identify any that I have missed? For each representation, identify games that you have played having that representation. ('none') may be a true answer. Submit tomorrow.

March 19 Lecture 4: How to play Puerto Rico, using the game to illustrate the types of features the game has: Physical style, shape, etc. Puerto Rico is a game with comparatively simple multi-level economics. I will not be teaching you how to play the game; I will discuss many design features. Discovering that the rules to some game are incomprehensible is certainly a good way to learn the virtue of writing comprehensible rules.

Homework Study carefully the Puerto Rico rules. Try playing at least a few rounds so you can see a range of possible tactics and strategies. Identify a strategy that you will try while playing the game, and write a brief description of it. Also, read *Design Elements*, pp. 35-73. These are themes and mechanics you might use in your design project.

Design Project The first design project, due next Tuesday, March 24. You are to generate a modified set of rules to Puerto Rico. The central change in the rules is *"Instead of having every player get some play after each role card is chosen, play that each player chooses a role and takes those actions, while the other players do nothing. After each player is done, the next player chooses an unused role and carries it out, while the other players do nothing. You may always choose 'Prospector' as your role. The game ends when*

someone builds all the buildings they can. After each round, move the start location for the round over by one player, so that the person who went first on one round goes last on the next round." The design challenge is a debugging problem. Many Puerto Rico rules reflect the rule that every player has a chance to act on the same role during a player's turn. That's no longer true, and other rules must be fixed to match. You have to be quite vigorous about fixing the rules, or you will get a truly awful game. For example, a rule that deletes inventories after only one player has taken a role must be fixed. You may want to eliminate some rules limiting how many goods, doubloons, etc. are available. You may need a new rule for distributing colonists, or it will take a player forever to get any. For examle, perhaps a player could also buy colonists or bribe the inspectors to permit construction.

The exact assignment is to identify each rule that is broken by this change, and propose a fix. In lab on March 25, your design group will test the changes suggested by one of its members. HINT: Save a copy of your proposed changes. Choose BEFORE coming to lab which set you will test.

March 23 Lecture 5: Shape. Voice. First person. Third person singular. Third person plural, the board wargame standard. Authorial Omniscient. Abstract.

Reading *Designing Board Wargames*, Chapter 2 and 3; *Modern Strategy*, Chapter 2.

Homework Finish the Lecture 4 Homework, which is substantial.

March 24 Lecture 6: Themes

Homework Themes. Choose any one of the themes I discuss. Use *Design Elements* and its indices, not to mention Chapter 4, to identify games having that theme. Do a further search (internet helps) for other games with the same themes. Identify mechanisms used by different authors to embody that theme. Mechanisms? For example, many pirate games will have ships and rules for ship-to-ship combat. Certainly, you can choose the theme you are incorporating in your own game. Due Thursday.

March 25 Lecture 7: **Laboratory** 3 hours: Play of Puerto Rico. You will first play a round or two with the standard rules, discussing out loud your moves and options, to make sure you are all using the same rules when you play. Then play a full game using the standard rules. *Remember, winning is not the point of playtesting.* You will then play until the end of the lab using the weak rule: "Instead of having every player get some play after each role card is chosen, play that each player chooses a role and takes those actions, while the other players do nothing. After each player is done, the next player chooses an unused role and carries it out, while the other players do nothing." The rounds should go very fast. You may always choose 'Prospector' as your role. Rules that assume that every player has had a chance to act on a role must be systematically fixed. For example, any rule that deletes inventories at the end of a round, after every player has taken a role, do not work if only one player gets that role. You may want to eliminate rules limiting how many goods, doubloons, etc. are available. You have to be quite vigorous about fixing the rules, or you will get a truly awful game. The game ends when someone builds all the buildings they can. After each round, move the start location for the round over by one player, so that the person who went first on one round goes last on the next round.

Lab Report, due next Monday, is the play test report. Report how you modified the *Puerto Rico* rules when you played the variant. Which rule did you prefer, and why? How did the change in the rules alter play interest? Which rule gave a better game? Be explicit about what you mean by 'better'. 1-2 pages is good.

Homework Read Greg Costikyan's essay 'I Have No Words and I Must Design' in *Modern Perspectives*. We will discuss it tomorrow. Answer the discussion problems 'Consider a traditional...' and 'The late Glenn Blacow', and turn in next Monday.

March 26 Lecture 8: Costikyan: What makes a good game.

Homework Re-Read Greg Costikyan's essay 'I Have No Words and I Must Design' in *Modern Perspectives*. Answer the discussion problem "Take several games with which you are somewhat familiar..." For *Carcasonne* and *Puerto Rico*, discuss how the game embodies (or does not embody) each of the factors that Costikyan identifies as being part of a game, or as being part of something that is not a game. Can you identify other general factors, found in your games, that Costikyan does not identify?" Turn in on Monday.

March 30 Lecture 9: Mechanism and Style; Mechanisms for the Design Project

Homework Choose any one of the mechanisms you are told to use in your design project. Use *Design Elements* to identify games having that mechanism. Do a further search (internet) for other games with the same mechanisms. Identify rules used by different authors to embody that mechanism. If each member of your design group chooses a different mechanism, you will get good coverage of the core mechanisms you need to include in your game.

March 31 Lecture 10: Game Mechanisms

Art Problem. Due next Monday. Read the interview by Scott Starkey in *Contemporary Perspectives*. Do the last Art Problem on page 29 (near top of page), involving my novel. You may alternatively use my novel *Mistress of the Waves*. Yes, some of you are not in the Art area. You still need to communicate with artists, and sometimes a picture is worth a thousand words.

April 1 Lecture 11: LABORATORY: *Brass*.

The objective here is for you to experience a heavily economic game. Try playing the game *in advance*, or you will be very confused.

Lab Report Due next Monday. Work through the rules. Identify general mechanisms corresponding to each rules segment. Did you identify here any mechanisms that I have not discussed, in particular mechanisms that you can identify in other games? Did you identify any rules features that were particularly appropriate to a game, but did not model the real world well?

April 2 Lecture 12: Game Mechanisms.

Design Project Work on your design project.

Art Problem In past years, many students totally botched this. Take a map of WPI. Insert it onto a hex or square grid. The game rules will distinguish between squares that are inside buildings, and squares that are outside buildings. If some or all of a square contains a building, the entire square counts as being inside the building. You can only walk on squares that are in the open air outside buildings. Your map should show that you can walk between all of our buildings, e.g., between Olin and the Campus Center. Remark: Pulling an aerial photograph of the campus off weather.com (locally, about the best available photos) and superposing a grid on it is an epic fail! You will end up with interesting results like 'it is impossible to walk in the space between Salisbury and the library; it is too narrow'. Remember, under the game rules, if your building covers a tiny bit of one square by entering a small corner, the entire square is inside the building. This art problem is due next Thursday.

April 6 Lecture 13: Game Mechanisms.

Homework Due tomorrow: Read the interviews in *Contemporary Perspectives* with Racier and Taylor. Written assignment: Identify and contrast the stands by Taylor, Racier, and Costikyan as to what makes a good game. Racier gives you much less to worth with.

April 7 Lecture 14: Maps and Gridding

Reading Read *Wargame Design* Chapter 19.

Homework Read the interviews with Branham and Breese in *Modern Perspectives*. Discuss what they say about game quality and game development. To what extent did your decisions match their recommendations? Why? I emphasize that doing the opposite of what they recommended is a perfectly good answer if true; the grade will look at your defense of your decisions.

April 8 Lecture 15: LABORATORY: Conquest of the Fallen Lands.

Lab Report, Due Monday. Work through the rules. Identify general mechanisms corresponding to each rules segment. Were there mechanisms I did not discuss, mechanisms you have seen in other games?

April 9 Lecture 16: MIDTERM EXAM. **All design notebooks will be turned in at the end of Lecture.**

Homework: Work on your game and presentation for Monday. The rough draft of your game are due Tuesday, so Monday you should have something decently close to playable. Re-read Chapter 3 of *Design Elements*. Skim Chapter 5. You might find something useful.

April 13 Lecture 17: **Student Group Presentation 1**: What we are going to do.

One representative of each group will do a FIVE minute presentation on its game. PowerPoint and other computer

display tools are not allowed.

Homework For tomorrow, read Andrea Meyer in *Contemporary Perspectives*. List the factors she thinks lead to to a good game.

April 14 Lecture 18: Advice of Famous Game Designers.

Reading Read *Design Elements* Chapter 5 Designing a Game.

Design Project The rough drafts are collected by me and redistributed to their playtest groups. Study the material you have been supplied by the design team. Note questions you find on rules. You should share these questions with the group that designed the game.

April 15 Lecture 19: LABORATORY: **Design Projects** Initial Game Play Test. First play test of rough drafts of design project games. One member of each Design Group will play the game with the Playtest group, take the Playtest group through play, and take careful notes on what happens. Remember, each Playtest group will be short one member, who will be off teaching the Playtest group's game to the Playtest group's Playtesters.

Lab Report: Be sure you know who designed your game and what their emails are, because **by Friday at 9 A.M.** you will send each of them a copy of your comments on the game. Include questions you encountered yesterday evening. One copy of the report goes to each game designer; one copy goes to me at phillies@4liberty.net.

April 16 Lecture 20: Play of Board Wargames - Maps, Gridding, Movement.

Homework Read the Brett Murrell interview in *Contemporary Perspectives*. Compare Murrell's list of factors that lead to a good game with those of the authors you have already ready. Discuss how aspects of your design project correspond, or do not correspond, to Murrell's criteria for a good game.

Reading *Board Wargames* Chapters 6-8. Start reading *Stalingrad for Beginners*, the first 14 chapters. The Chapters are very short. You should consider how to answer the homework questions, but I will not collect them.

April 21 Lecture 21: Play of Board Wargames - Zone of Control, Combat.

Reading *Board Wargames* Chapters 9-11.

Design Project Collect and Distribute the Intermediate Game Drafts. Study your game drafts. Generate questions. Attempt to be prepared to play.

April 22 Lecture 22: LABORATORY: Intermediate Game Play Test The Design Group may not talk to the Playtest group. Playtest members may give *written* questions to the Design Group and be given *written* answers. Save those questions and answers; they are to be included in the next homework assignment.

Lab Report: Each member of the Playtest group writes a report on the game he or she played, including rules omissions, oddities, points where play was uncomfortable, etc. Include the written questions and answers from the play session in one of the reports. By Friday at 9 A.M., one copy of the report goes via email to each game designer; one copy goes to me.

April 27 Lecture 23: Play of Board Wargames. Stalingrad Replacement and Supply. Rules not seen in Stalingrad, notably Command and control, the opposite of unreal time simulations. Player levels. Message delays. Truly large games; the Tactics π model. Hidden movement. Simultaneous movement, with umpires, rules engines, or Champions phasing. 1914 and illustrations of pre-planned moves.

Reading *Board Wargames* Chapters 12-14, 18-20.

Design Project Work on fixing your game. The final draft is due in class tomorrow.

April 28 Lecture 24: Tactical Analysis in Stalingrad. *Stalingrad for Beginners*, Chapters 20-26, should now be read. Sample moves in *Stalingrad Replayed* can now be examined.

Design Project Games are distributed to the next play test group. Study the game you have been given. Look for issues for playtesting, rules questions, etc.

April 29 Lecture 25: LABORATORY: Final Game Play Test ...blind playtest of final draft of game. Players may not have contact with the Designers during play, except to deal with catastrophic rules

questions, which are to be passed through me. Start by playing a few rounds of the game, enough that the major rules have all been applied, saying aloud what you are doing, what your choices are, and how you are applying the game rules, to see that you all are playing the same rule interpretations. Then try playing the game. It is not appropriate for one player to teach the rest of the playtest group the game; that approach means only one person actually reads the rules.

Lab Report By Friday at 9 AM, playtesters make their written comments on the game. One copy of the comments goes to the designers; the other copy of the comments goes to me. Your report will include a report on whether or not the game satisfied the design requirements: "Each game must: (i) have an exploration element, (ii) have a *multi-level* economic/commercial element, (iii) be suitable for four players, (iv) have an explicit cooperative element, a major victory condition that must be jointly satisfied by all the players or they will lose, (v) have an explicit competitive element, a way of determining who won. (vi) have an explicit interactive element between players, e.g., trading, and (vii) take 2-3 hours to play or reliably take under 1.5 hours to play. A simple tech tree is required, for a very broad interpretation of "tech". A game may not have any military element, criminal or law enforcement element, hunting element, or intelligent animals."

April 30 Lecture 26:

The tirade against technology. The myth of high technology. Why did the gun replace the bow? The atomic bomb in WW2: political success but military failure (tactical use in invasion plans). Tactics and weapons. The original hovercraft. The assault axe in WW1. Modern tanks – they've already done a film on this war, and we are the Martians. Doctrines and plans. Aerial reconnaissance and America's actual first aircraft carrier. The French unbroken line doctrine; its realization at Kursk. Repeating old errors: infantry and cruiser tanks in WW2. Overbuilding the navy in WW2 and the Drop Shot and Half Moon war plans. Is simulation even possible? Secret weapons. Muskets–the morale weapon. Soviet Command Economics; Iraq-Oil to Pay for US Forces Combat to Destruction e.g. Space Empires IV No doctrine vs planning cycle (turn based). Lack of time to give orders or to execute. The tirade appears in *Board Wargame Design*.

Game Project Finish your game project. Include in your final game, to be submitted to me on Tuesday each of the written statements from the final playtest, and a statement of how you dealt with each question or criticism.

Extra Credit: Play at least two complete turns of Stalingrad using Vassal, the Stalingrad 3 module with screen shot option. By the evening of Tuesday, May 5, submit the game record (image, after each move, before combat) to me as a ZIP file. Please use my phillies@4liberty.net email address. Read the last two Chapters of *Designing Modern Strategy Games*.

May 4 Lecture 27:

Group Report: Problems and how we solved them. One person from each group will present. You will advise me in advance as to the name of your presenter. Final improvements in the game. The time limit on presentations will be 6 minutes. The use of computers or Powerpoint presentations is forbidden. You really really should know your game and what you did to it well enough that you can talk clearly, precisely, and extemporaneously about your changes, with at most a cue card or two.
Phillies: Closing Sermon

May 5 Lecture 28:

FINAL EXAMINATION.

Design Project: By 11 A.M. sharp you will have delivered to Olin 130 the final version of your game, in a transportable box, together with all playtest comments and written responses to each comment.

End of Course

And, remember, you don't have to be a vidiot.