| COURSE TITLE BLACKBOARD SITE | ARC2813 - **Electronic Methodologies One**, On-Line  
Summer 2010 – [http://my.ltu.edu](http://my.ltu.edu) and select CRN 5358 |
|-------------------------------|---------------------------------------------------------------------|
| INSTRUCTOR                   | **Alan Hall**  
Adjunct Faculty – Lawrence Technological University  
BIM+CV Certificate Coordinator  
Contact Information:  
E-mail: ahall@ltu.edu  
Business phone: (248) 674-4300  
Office: A-142 - Office hours by appointment |
| SCHEDULE                     | May 12, 2010 – July 16, 2010  
See [http://www.ltu.edu/registrars_office/calendar_final_exam.index.asp](http://www.ltu.edu/registrars_office/calendar_final_exam.index.asp) for LTU  
academic calendar information. |
| LEVEL/ HOURS PREREQUISITE    | Undergraduate Degree / 3 credit hours  
No prerequisite requirements |
| REQUIRED TEXT                | **Residential Design Using AutoCAD 2009**  
by Daniel John Stine  
SDC Publications  
ISBN: 978-1-58503-437-6  
**Commercial Design Using Revit Architecture 2009**  
by Daniel John Stine  
SDC Publications  
Available for online purchase through LTU Bookstore at:  
| ADDITIONAL RESOURCES         | LTU Online student resources: [http://www.ltu.edu/ltuonline/](http://www.ltu.edu/ltuonline/)  
Tutoring – Academic Achievement Center: [http://www.ltu.edu/aac/](http://www.ltu.edu/aac/)  
Summer schedule (May 17 – July 17, 2010 (The ACC is closed July 2)  
Monday – Thursday, 9:30am – 5:30pm  
Friday – 10:00am – 4:00pm |
| TECHNICAL SUPPORT            | Technical support for using Blackboard is provided by the Helpdesk. Visit [www.ltu.edu/ehelp](http://www.ltu.edu/ehelp) or 248.204.2330 or helpdesk@ltu.edu |
EM1 - CATALOGUE DESCRIPTION
An introduction to the use of the computer to graphically generate databases as an aid in planning, management
and design processes related to architecture and presentation. An introduction to system design, project work
flow, project organization, integration, networking and awareness of Geographic Information System (GIS)
database technology. Includes application theory and related terminology, with various CAD systems and analysis
programs available to the architect/engineer.  3 hours credit

REQUIRED MATERIALS
The student is required to have a functional computer with internet connection with software supported by the
LTU helpdesk along with the College of Architecture and Design (Specifically AutoCAD 2009, Revit 2009 and
Microsoft PowerPoint). Also needed are the required books for the class and a 2-button mouse with wheel, using
a track ball or sensor pad can be inefficient when utilizing CAD programs.

COURSE SCHEDULE
This fully online course begins with a partial week online course orientation period to familiarize yourself with the
online learning environment and to meet via email with your instructor. Each subsequent week starts on a
Monday and ends on a Sunday. Suggested events for the semester may change as we proceed.

<table>
<thead>
<tr>
<th>Dates</th>
<th>Modules</th>
<th>Topics / Readings</th>
<th>Assignments Due</th>
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</table>
| Partial week  May 12 – May 16 | Module 0 | 1) Module Instructions & Information  
2) View Course Guide Presentation  
3) Syllabus Review | Email verification  
Bb Discussion Board  

Week 1  May 17 – May 23 | Module 1 | Read Chapters in the AutoCAD Textbook  
1. GETTING STARTED WITH AUTOCAD  
2. CRASH COURSE INTRODUCTION (The Basics)  
3. DRAWING ARCHITECTURAL OBJECTS (Draw & Modify) | Exercises (AutoCAD):  
Ch1, Ch2, and Ch3  
Questions (AutoCAD):  
Ch1, Ch2, and Ch3  |

Week 2  May 24 – May 30 | Module 2 | Read Chapters in the AutoCAD Textbook  
4. Residential Project: FLOOR PLANS  
5. Residential Project: EXTERIOR ELEVATIONS  
6. Residential Project: SECTIONS | Exercises (AutoCAD):  
Ch4, Ch5, and Ch6  
Questions (AutoCAD):  
Ch4, Ch5, and Ch6  |

Week 3  May 31 – Jun 6 | Module 3 | Read Chapters in the AutoCAD Textbook  
7. Residential Project: Plan Layout & Interior Elevations  
8. Residential Project: Site Plan  
9. Residential Project: Schedules & Sheet Setup  
Ch7, Ch8, Ch9, Ch10  
Questions (AutoCAD):  
Ch7, Ch8, Ch9, Ch10  |

Week 4  Jun 7 – Jun 13 | Module 4 | Study and prepare for Mid-Term Exams  
Written and Practical | Mid-Term Exams  |

Week 5  Jun 14 – Jun 20 | Module 5 | Read Chapters in the Revit Textbook  
1. GETTING STARTED WITH REVIT ARCHITECTURE 2009  
2. Quick Start: Small Office  
3. Office Building: FLOOR PLAN (First Floor) | Exercises (Revit):  
Ch1, Ch2, and Ch3  
Questions (Revit):  
Ch1, Ch2, and Ch3  |
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| Week 6       | Module 6| Read Chapters in the Revit Textbook  
4. Office Building: FLOOR PLANS (Second & Third Floors)  
5. Office Building: ROOF  
6. Office Building: FLOOR SYSTEMS & REFLEDED CEILING PLANS | Exercises (Revit): Ch4, Ch5, and Ch6  
Questions (Revit): Ch4, Ch5, and Ch6 |
| Week 7       | Module 7| Read Chapters in the Revit Textbook  
7. Office Building: INTERIOR & EXTERIOR ELEVATIONS  
8. Office Building: SECTIONS  
9. Office Building: FLOOR PLAN FEATURES | Exercises (Revit): Ch7, Ch8, and Ch9  
Questions (Revit): Ch7, Ch8, and Ch9 |
| Week 8       | Module 8| Read Chapters in the Revit Textbook  
7. Office Building: INTERIOR & EXTERIOR ELEVATIONS  
8. Office Building: SECTIONS  
9. Office Building: FLOOR PLAN FEATURES | Exercises (Revit): Ch10, Ch11, and Ch12  
Questions (Revit): Ch10, Ch11, and Ch12 |
| Week 9       | Module 9| Study and prepare for Final Exams  
Written and Practical | Final Exams                           |
| Week 10      | Module 10| Final Project – Book Presentation | Final Project Bb Discussion Board     |

I encourage all students to keep up with the schedule as described in this syllabus. As you can see the class is divided into two very distinct sections 1) AutoCAD and 2) Revit. We have a lot of materials to cover at an accelerated pace. It is very easy to fall behind, especially during the summer semester, so time management will be a great factor for this course.

**STUDENT EVALUATION**

The course has assignments as listed above in the course schedule. Additional instructions and information about each assignment will be emailed to you and posted on Blackboard prior to the start of each week. Your grades will be calculated with the percentage and point system detailed below.

<table>
<thead>
<tr>
<th>Grade Computation Criteria</th>
<th>Point Totals</th>
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| AutoCAD & Revit Textbook Work  
Textbook Work @ 22%  
(1% for each chapter @ 22 chapters) | 22 Points |
| AutoCAD & Revit Chapter Questions  
Questions @ 11%  
(.5% for each quiz @ 22 quizzes) | 11 Points |
| Mid-Term Exam (Practical & Written)  
AutoCAD Practical Exam @ 15%  
AutoCAD Written Exam @ 5% | 15 Points  
6 Points |
| Final Exam (Practical & Written)  
Revit Practical Exam @ 15%  
Revit Written Exam @ 5% | 15 Points  
6 Points |
| Participation Requirements  
Online Participation @ 10% | 10 Points |
| Final Project - Book Presentation @ 15% | 15 Points |
| **Total Possible Points** | **100 Points** |

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<thead>
<tr>
<th>Class Points</th>
<th>Letter Grade</th>
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<tbody>
<tr>
<td>96 and above</td>
<td>A</td>
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<tr>
<td>90 – 95</td>
<td>A-</td>
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<tr>
<td>87 – 89</td>
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<td>83 – 86</td>
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<td>61 – 69</td>
<td>D (Undergrad Only)</td>
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<td>60 and below</td>
<td>E</td>
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EDUCATIONAL GOALS
To learn AutoCAD and Revit requires a significant amount of time and practical application. The goal of this course is to introduce the student to the basic skills required to produce architectural drawings and designs using AutoCAD 2009 and Revit Architecture 2009. The books selected are tutorial based and are designed to take the student through projects from start to finish. While performing the prescribed tasks, the student will become familiar with the tools, specific commands, interface menus, and develop efficient drawing techniques to aid in the methodology of digital architectural design.

STUDENT LEARNING OBJECTIVES / OUTCOMES
- To provide instruction in the fundamentals related to a theoretical understanding of the basic skills and principles associated with 2D and 3D visualization.
- To provide an introduction and awareness to computer aided design (CAD) and Building Information Modeling (BIM) via software applications such as Autodesk's AutoCAD 2009 and Revit Architecture 2009.

PREREQUISITE SKILLS
None

INSTRUCTIONAL METHODS AND COURSE ORGANIZATION

Blackboard Learning Environment – Blackboard at my.ltu.edu contains the syllabus, all assignments, narrated mini-lecture videos, written lecture notes, chapter questions, links to Web resources, and discussion forums. You will submit all assignments via Blackboard and are expected to participate in discussion topics as assigned. Please take time to familiarize yourself with the organization of the Blackboard site. You will want to check the site frequently for announcements reminding you of new resources and upcoming assignments.

Student/Instructor Conversations – Students can keep in touch with the instructor via e-mail, and Blackboard resources such as Pronto and Wimba.

Self-Assessments – Self-assessment tools will help students measure their skills during the course.

Required Reading – Textbook chapters should be read according to the schedule outlined in the syllabus.

CLASS POLICIES AND EXPECTATIONS
I plan to offer you a valuable learning experience, and expect us to work together to achieve this goal. Here are some general expectations regarding this course:

Each student has a LTU email account. If you wish to use a different email address for this course, please change your email address in Blackboard under “Blackboard Tools”, then “Personal Information” and send an email to me so I can store your address in my email directory. The majority of the communication for this online course will be by email so you want to make sure that you check your email often!

Readings, discussion forum participation, and assignments must be completed according to the class schedule. It is important to contact the instructor as needed to discuss personal needs regarding course requirements and assignments.

All assignments must be submitted on schedule, via Blackboard, and using Microsoft Office compatible software and/or the AutoCAD & Revit Architecture 2009 software. If you need to submit an assignment via email for any reason, contact the instructor in advance.

Assignments must be completed to an adequate standard to obtain a passing grade. Requirements for each assignment will be detailed in the weekly Module instruction email, as well as posted on Blackboard.

Be prepared to log into Blackboard at least once each day. Please focus your online correspondence within the appropriate Blackboard discussion forums so that your colleagues can learn from you. At the end of the course, you will be invited to participate in a University evaluation of this course. Your feedback is important to the University, to LTU Online, and to me as an instructor and I encourage you to participate in the evaluation process.
It is important for you as students to know what to expect from me as your instructor:

• I will be available to you via e-mail and will personally reply to your messages. (See Module 0 for specifics)
• Tutors are available at the Academic Achievement Center for face-to-face appointments if necessary.
• I will maintain the Blackboard web site with current materials, and will resolve any content-related problems promptly as they are reported to me.
• I will send out a weekly e-mail update to all class members to guide upcoming work and remind you of assignment due dates.
• I will return all assignments to you, and may include individualized comments and suggestions with your assignments.
• I will hold our personal written or verbal communications in confidence. I will not post any of your assignments for viewing by the class without requesting your approval in advance. (Submitting any project in this class becomes University property and you agree to the University’s terms and conditions)
• I will treat all members of the class fairly and objectively.
• If any of these points need clarification, or when special circumstances arise that require my assistance, please contact me so that we can discuss the matter.

PRACTICAL GUIDELINES FOR CLASS LOAD EXPECTATIONS
A three-credit course generally requires at least nine hours per week of time commitment. Here are some practical guidelines to help you schedule your time for this On-Line course:

• The summer semester is compressed into 10 weeks and requires at least 126 hours of time commitment to successfully complete all readings, activities, assignments, and texts as described in this syllabus.
• You should reserve at least 9 hours per week to read the required textbook chapters and resources, participate in online discussions, review presentation materials, and work through online quizzes. This effort will total at least 90 hours over the course of the semester.
• You should organize your remaining time to roughly correspond with the point value of each major assignment.

These guidelines may not reflect the actual amount of outside time that you, as a unique individual with your own learning style, will need to complete the course requirements. The number of hours each week will vary based on assignment due dates, so please plan ahead to insure that you schedule your academic, work, and personal time effectively. The following graphic can be used to guide you in planning your weekly course work to remain on schedule:

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### Online Learning Schedule

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<th>MON</th>
<th>TUES</th>
<th>WED</th>
<th>THU</th>
<th>FRI</th>
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<tbody>
<tr>
<td>Read Textbook Chapter</td>
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<td></td>
<td>Take Online Chapter Quiz</td>
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<td></td>
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<td>Participate in Weekly Blackboard Discussions</td>
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<td>Individual and Group Project Work - Coordinate With Colleagues</td>
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<td></td>
<td>Instructor Communication - As Needed</td>
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ASSIGNMENT DETAILS
Course assignments and evaluation criteria are detailed below. Please review these requirements carefully. See the section Academic Resources / Assessment Guidelines for information about assessment of written and oral presentations.

Details for all assignments are shown below. Please note that you should not submit any assignments to the Blackboard “Digital Drop Box.” All assignments are submitted using the Blackboard “Assignments” or “SafeAssign” function. Some assignments are also posted to the Blackboard Discussion Forum for student comments.

Please make sure when submitting assignments that you actually click the submit button and not just the save button. You will know an assignment has been submitted successfully when you see a green box (with a check mark) appear in that assignment category when viewing the MyGrades area on Blackboard.

Assignments

TEXTBOOK WORK
All chapters will be covered in a sequential order at a rate of approximately three chapters per week. The procedural requirements for completing and submitting textbook work will be stated in the weekly class assignments and on Blackboard. The written criteria will have to be adhered to when submitting work.

CHAPTER QUESTIONS
All chapters will be covered in a sequential order at a rate of approximately three chapters per week. The procedural requirements for completing and submitting chapter questions will be stated in the weekly class assignments and on Blackboard. The written criteria will have to be adhered to when submitting work.

LATE ASSIGNMENTS
Posting a late assignment will result in a grade reduction of 20% for that assignment. Once an assignment is late, it’s late, so whether you turn it in one day or a month late, the same reduction will apply. The point is to turn in completed work. The work for the class compounds, which means that each assignment builds on the previous week’s lecture and assignment. It will behoove the student to keep pace with the schedule.

ASSIGNMENT SUBMISSIONS
I will be using the AutoCAD & Revit Architecture “history” feature to make sure that students are submitting their own work. This tool allows me to view, by student initials and number, who worked on a file and when. If it is found that a student is submitting files worked on or belonging to someone else, that student will be reported to the University and be subject to the consequences deemed appropriate.

MICROSOFT POWERPOINT PRESENTATION
Students will produce a digital slide presentation documenting their course work for the semester.
PowerPoint Essential Training: Not Required tutorials – First (7) videos (almost a full hour of instruction if needed)

Tests, Exams, and Online Participation

AutoCAD Midterm Exam
The AutoCAD Midterm Exam will be part written and part practical in order to evaluate the student’s basic understanding of the material covered in the textbook.

Revit Final Exam
The Revit Final Exam will be part written and part practical in order to evaluate the student’s basic understanding of the material covered in the textbook.

Participation Requirements
Each student is expected to actively participate in online activities. Class participation is evaluated to a maximum of 10 points (10% of your total grade) based on participation in Blackboard discussion forums, responding to questions posted by the instructor, turning in assignments on time, and interacting positively with other students.
SYLLABUS ADDENDA

Please see the LTU Online “Current Students” web site http://www.ltu.edu/ltuonline/ for comprehensive information about Lawrence Tech’s academic services, library services, student services, and academic integrity standards. The content of this web site is explicitly included as syllabus requirements.

The LTU Online “Current Students” web site also includes grading rubrics used by your instructor to evaluate written assignments, discussion forum participation, and group assignments. Please note that the SafeAssign anti-plagiarism product will be used for written assignments submitted for this course. Please see the instructions included on the LTU Online web site regarding the use of the SafeAssign product.

LTU Academic Honor Code:
Academic integrity and honesty are basic core values of Lawrence Technological University. In carrying out its academic mission, Lawrence Technological University, like all universities, depends on the honesty and integrity of its faculty, staff, and students, and for this reason every member of the Lawrence Technological University community is charged with upholding the Academic Honor Code. Actions that breach the Code erode the trust of those who look to universities for honest evaluations of academic work arrived at through honest processes. Violations may also cause individual harm in that reports of performance made to post-graduate schools, professional societies, and employers would inaccurately represent a student’s progress. Lawrence Technological University is committed to creating an academic community that values both individual and collaborative efforts that promote learning and discovery. Such a community expects honesty and integrity in the work of all its members. The Academic Honor Code speaks to the work of individual students within the community. It should not be construed as arguing against the important collaborations that also occur among students on campus.

Students, faculty, and staff are expected to follow established standards of academic integrity and honesty. Academic misconduct entails dishonesty or deception in fulfilling academic requirements and includes but is not limited to cheating, plagiarism, or the furnishing of false information to the University or a University affiliates in matters related to academics. An affiliate of the University is any person, organization, or company who works in conjunction with Lawrence Technological University for the purposes of assisting students in fulfilling their academic requirements. It is therefore this institution’s stated policy that no form of dishonesty among its faculty or students will be tolerated. Although all members of the University community have an obligation to report occurrences of dishonesty, each individual is principally responsible for his or her own conduct.

Full text of the LTU Academic Honor code can be found at: http://www.ltu.edu/currentstudents/honor_code.asp

Plagiarism:

From Lawrence Institute of Technology Catalog, pg 17:

“Academic dishonesty includes plagiarism, cheating, forgery, or other acts that deceive or defraud in regard to a student's own academic work or that of others. Questions of academic dishonesty are reviewed by the Dean of the School responsible for the courses in which they occur. When necessary, cases of academic dishonestly may be referred to the Student Discipline Committee. The usual penalty for academic dishonesty is failure in the course on the first offense and expulsion from the College on the second offense.”

-- Full text adapted from the LTU College of Arts & Science documents. More information and full text is located at: http://www.ltu.edu/arts_sciences/humanities_ss_comm/plagiarism.asp

Retention of Student Work:

As noted in the University’s undergraduate catalog, “all two and three dimensional drawings, as well as reports and other written studies submitted in satisfaction of any required or elective courses become the property of the University. When such work is kept, arrangements will be made for the student to receive suitable photographic copies as a record of his or her design work.” Exemplary examples of student work may be retained for Open House, for accreditation visits, for Honors exhibitions, or as examples for future classes.