

Departmental Plan incorporating Communication across the Curriculum

School of Architecture + Design
College of Architecture and Urban Studies¹

March 18, 2005

Statement of School Goals and Objectives for an integrated, sequenced approach to spoken, visual and written communication across the curricula of the Bachelors of Architecture, Industrial Design and the Interior Design programs.

The three professional programs that make up the School are accredited by the National Architecture Accreditation Board (NAAB), the National Association of Schools of Art and Design (NASAD) and the Foundation for Interior Design Education Research (FIDER). In addition to the School's commitment to providing an opportunity for each student to have a strong liberal arts and sciences background², NAAB, NASAD and FIDER each define a set of expectations and competencies for the professional/disciplinary portion of each program's curriculum. As design, planning and management professions, all levels of practitioners are expected to develop and communicate ideas, concepts, implementation plans and critiques through a combination of spoken, written and visual means. These vary from highly schematic concepts to finely detailed design and construction plans, and from professional memos to in-depth impact assessments.

At the completion of the A + D degree programs, students will be able to:

Visual Communication

- use a variety of hand and computer drawn representations, and three-dimensional models to convey the scope, depth and breadth of their design process and areas of investigation,
- select and develop graphic representations and alternative presentation techniques (such as video, photography or computer technology) appropriate to visually present their design proposals and justifications to diverse groups (These may include peers, faculty, professional juries, and client groups.)

Spoken Communication

- orally present their design process and proposals as expected of an entry-level practitioner
- participate in meaningful discussions reflecting upon the issues and positions of their discipline
- prepare and lead discussions with diverse groups (These may include peers, faculty, and client groups)

Written Communication

- write clear documentation their design processes and proposals,
- write clear explanations of concepts and principles

¹ This proposal is adapted from the Department of Landscape Architecture Plan approved in January, 2005.

² As evidenced by the requirement of free electives in all three programs: 12 in Architecture, 12 in Industrial Design, and 15 in Interior Design.

- demonstrate knowledge of course material in written format
- write professional reports reflective of current professional standards (These necessarily include a number of visual components.)

In 2003, the faculty reviewed and refined the mission of the School that reaffirmed and strengthened each program's grounding in the importance of discovery-based and iterative learning within the design disciplines. The curriculum builds a broad base of fundamentals which include spoken, written and visual communication abilities within the first two years of study and that incorporates growing levels of complexity and expectations as students progress toward graduation. In the design disciplines, professional communication enables the exchange of ideas through evocative, explanatory, and technical language -- visual, spoken and written -- in order to direct or initiate action.

Development and Implementation of Communication across the Curriculum

The School of Architecture + Design's curriculum includes four categories of coursework within each discipline: Theory and History Courses, Technical Courses, Practicum and Studio Courses. Spoken, visual and written communication skills are incorporated into each major's required course work with an emphasis on *focus (intent of communication)*, *form (expression or production)*, and *forum (audience)*. As design professions require abilities to develop and present concepts and plans in written, visual and spoken forms and forums, students develop these skills through out a number of required courses.

The courses listed below are illustrative of the spoken, visual and written components as described in each program, and are required of each major. The faculty believes that the School's curricular goals and objectives are met as students complete these courses. All three disciplines in the School require a Senior Project as a capstone course tying together many aspects of the communication across the curriculum goals and objectives.³

During fall semester 2005, the department will revise the check sheet for students entering 2005 to reflect a change in course requirements such that the existing WAM is no longer identified as a distinct set of required courses. Since the articulation and transmission of ideas is deeply embedded in the all three programs that make up the School (see Appendix II for examples of design communication), the ViEWS (visual expression written and spoken) University Core Requirement will require no additional revisions to the curriculum of the School.

Theory and History Courses

**required of all majors, unless otherwise noted all theory and history courses are three credit hours*

Theory and history courses emphasize written and visual formats, some courses require oral presentations. In preparation for the collaborative environment in all three professions, most of the oral presentations in these courses are group presentations.

³ The requirement of a capstone project in Interior Design is part of the curricular changes being implemented as the program is being integrated into the School of Architecture + Design.

Technology Courses

**required of all majors in the Industrial Design and Interior Design Programs. Architecture majors currently take technology courses to fulfill professional elective requirements. Unless otherwise noted all technology courses are two to three credit hours per semester.*

The technology courses allow students to develop proficiencies in drawing (hand and digital), and in other design media / technologies available in the School's workshops. The nature of the project assignments require students to orally communicate their designs and design intents to the teaching faculty and student colleagues. Final drawings, when it is relevant to the media of study, convey their construction instructions using professional conventions.

Practicum Courses

**required of all majors, unless otherwise noted all studios are three credit hours per semester*

Practicum courses prepare the students to critically participate in the professional environment of their discipline. The nature of the assignments requires students to communicate thoughtfully and competently through current professional standards and conventions. This is accomplished through oral and written professional reports which necessarily include a number of visual components. The collaborative nature of contemporary practice is emphasized through group reports and presentations supported by visual material appropriate to the topic covered. Additional writing assignments employ reflective, descriptive and critical forms.

Studio Courses

**required of all majors, unless otherwise noted all studios are six credit hours per semester*

Studio Sequence

Design studios require students to develop and use a variety of representational tools to conceive and develop proposals for buildings, objects and interior environments. These tools include the hand and digital representation skills appropriate to development and communication of form and material construction of design proposals common to the practice of each discipline. Beginning in their first year of studios, students are required to make 2 and 3 dimensional representations appropriate to the design problems, to prepare written and graphic reports, and to orally present and discuss their proposals. As students advance through the design studio sequence, they develop more complex visual, written and oral presentations. These presentations include numerous visual components, such as, diagrams, maps; plan, section, and perspective drawings; digital models; 3-dimensional constructions; and fabrication or construction documents. During their third and fourth years, students present their work to 'clients' *and/or* design/development professionals in various contexts. These settings include professional competitions and sponsored research grants, local constituencies including public and private entities, and workshops or critiques with visiting design professionals.

Senior Project

In their final year of study, students complete a capstone sequence, a Thesis (Architecture) and a Senior Project (Industrial Design, Interior Design). Students must successfully develop and complete a final project, which is assessed through a series of presentations throughout the year and concluded as a book. These presentations are supported by written and visual documents appropriate to their project's topic and scope. They are open to an audience of students, guests and professionals. Once the project is deemed substantial, students design and produce paper-based and digital presentations of their project in order to graduate.

Table 1: Example Courses Representative of Each Course of Study within the School

Architecture

Theory/History	ARCH 3115, 3116 History of Architecture	Through written communication, students are expected to be able to: <ul style="list-style-type: none"> • Write clear explanations of concepts and principles; • Demonstrate knowledge of course material in written format; • Reflect upon the issues and positions of their discipline.
Technology	ARCH 4304 Topics in Design Media: C++/Graphics	Communication content located in representational techniques and information handling in design and professional practice using computer technologies. Work produced on the computer is viewed with emphasis on critical thinking and propriety of effort to consequence achieved.
Practicum	ARCH 4044 Professional Practice	Communication emphasis on developing written, oral and spoken expression reflecting professional standards, including writing and the use of graphic representations. Additional writing used in reflective, descriptive and critical form which includes developing a written position through a 1500 word ethics essay, and preparing descriptive and evaluative professional reports. Small groups prepare oral and visual comparative case studies of professional practices, supplemented by evaluative written documentation.
Studio		
<ul style="list-style-type: none"> • <i>Sequence</i> 	ARCH 1015, 1016 Foundation Design Laboratory	<p>All students in the School of Architecture + Design are required to take this course. Communication emphasis is placed upon the tools to systematically explore basic design issues through graphic and verbal means of communication. Formal writing includes ideation, concept statements, definition of terms, and the relation of text to graphics. The student should be able to:</p> <ul style="list-style-type: none"> • Identify the nature of ordering problems through various modes of visual and oral presentation, including drawing, sketching, modeling, & photography; • Communicate concepts with various media; • Write as a means of conveying information; • Engage in Dialogue and Discussion with faculty and peers.
<ul style="list-style-type: none"> • <i>Senior Project</i> 	ARCH 4515, 4516 Architecture V ARCH 4524 Thesis Documentation	Advanced independent architectural research requiring articulation of a conceptual and professional position. This position is realized in a terminal thesis project completed in the second semester of the fifth year and in a written and visual portfolio (Thesis Documentation). Communication emphasis is placed on the student's ability to engage in a critical dialogue with the profession at large, as well as be critical about his/her own architectural work through oral presentations, informal group discussions and a written critical essay. The student should be able to:

		<ul style="list-style-type: none"> • Prepare documentation demonstrating the ability to conduct an architectural project, through the use drawings, models, writings and oral presentations; • Prepare portfolio quality documentation of the student's architectural abilities; • Identify and articulate where her/his abilities and knowledge can best be utilized in an effort to define, or redefine, how the architect can make a contribution to society.
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Industrial Design

Theory/History	IDS 3114 History and Theory of Industrial Design	Through a final project which is both a written and visual document students are expected to be able to: <ul style="list-style-type: none"> • Clearly explain the concepts and principles of industrial design; • Demonstrate knowledge of course material; • Reflect upon the issues and positions of their discipline.
Technology	IDS 2984 Design Visualization	Development of hand, 3-dimensional perspective representation skills appropriate to the profession.
Practicum	ARCH 4044 Professional Practice	The Professional Practice section for Industrial Design requires that student teams develop a business plan around a proposed product or service concept. This plan requires a full written document including an executive summary, a graphically intensive product/service summary, financial analysis and projection, a proposal for a company web site (with sample web pages designed) and distribution and marketing strategies. Further, students must develop professional digital presentations for venture capital audiences and deliver drafts of the presentation three times during the semester. The final presentation is an oral and digital review of their written document for an audience of both their classmates and invited professionals. Their final deliverable is a hard copy of the final business plan with a CD of the final digital presentation.
Studio		
<ul style="list-style-type: none"> • <i>Sequence</i> 	IDS 2014, 2024, 3025 & 3026 Industrial Design Studio II & III	Development of hand and digital representation skills appropriate to exploring and finalizing industrial design proposals. Includes free-hand sketching, design/technical process drawing, full-scale drawings for shop production of working prototypes, CAD/CAM, documentation of technical calculations and calculation processes, and production of professional reports. Exhibit in a portfolio of work, a well written and edited description of their design processes and material research.
<ul style="list-style-type: none"> • <i>Senior Project</i> 	IDS 4415, 4416	Research a particular subject and develop a thesis question leading to a project or product. Demonstrate various methods of presenting alternative solutions. Present a convincing argument using visual and verbal mediums of the need and efficacy of the proposed product or project.

Interior Design

Theory/History	ITDS 3125, 3126 History in Interior Design	The final project is pamphlet or handbook which incorporates both written and visual components. This project should demonstrate the student's ability to: <ul style="list-style-type: none"> • Clearly explain the concepts and principles of interior design; • Demonstrate knowledge of course material; • Reflect upon the history and positions of their discipline.
Technology	ITDS 2224	Exploration and development of advanced presentation techniques appropriate for communicating interior design concepts. Special attention is given to utilizing digital media as support for visual and verbal communication. This course is intended to further the students' design communication ability in order to develop clear, concise, and effective presentations that are of high quality in character. Students should be able to: <ul style="list-style-type: none"> • Describe interior spaces with a variety of media that includes both hand and digital rendering techniques; • Demonstrate how the principles and elements of design visually communicate a concept; • Construct two- and three-dimensional drawings and renderings that illustrate interior spaces and interior details; • Prepare professional quality design presentations for a variety of interior design scenarios; • Present designs, through verbal and visual means, in a public forum.
Practicum	ITDS 4164 Interior Design Business Procedures	Communication emphasis on developing writing reflecting professional standards for industrial designs, including written, graphic and technical competencies. Students should be able to: <ul style="list-style-type: none"> • Write a job description and resume; • Write a design proposal and contract; • Write a product specification section; • Participate in a group presentation.
Studio		
<ul style="list-style-type: none"> • <i>Sequence</i> 	ITDS 2144 Second Year Interior Design	Effective communication of design ideas visually, orally, and with written descriptions. Development of visually rich graphic presentations appropriate to communicating design ideas.

<ul style="list-style-type: none"> • <i>Senior Project</i> 	<p>ITDS 4124 Fourth Year Interior Design <i>(note: this course is currently taught as a studio sequence; the requirement of a capstone project is part of the curricular changes being implemented as the program is being incorporated in the School of Architecture + Design)</i></p>	<p>The senior project is a capstone project that requires research, design and communication skills. Students develop a complex interior design project of their choice based on research of similar projects to identify user needs and technical requirements. The research then serves as the base information for the student's design project. The work is guided by faculty and a practicing interior design professional. The completed drawings, models and written statements are presented in an oral review to a panel of faculty and practitioners. The student is also required to create a bound document of the research and design in a book format.</p> <p>Having successfully completed this course, the student will be able to:</p> <ul style="list-style-type: none"> • Collect appropriate research data for a given project type; • Analyze and organize research data in a way that is useful as a guide for design; • Utilize research as the foundation for appropriate development of a design solution; • Develop a design with the guidance of several mentors that may have differing points of view; • Present the results of the research and design work to a review panel; • Compile the sum of the work in a clearly presented "book."
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Plan for Assessing Outcomes

Assessments of the undergraduate curriculum and student outcomes are currently done using the following tools:

External:

1. Review by Outside Evaluators (NAAB, NASAD, FIDER)
2. Alumni Surveys (including professional experiences and graduate studies)
3. Employer Surveys
4. Competition Successes
5. Graduate School Acceptance Rates

Internal:

5. Internal Report prepared for accreditation review
6. Senior Project presentation and document
7. Senior Surveys
8. Design Laboratory Evaluation Criteria

The School of Architecture + Design is made up of three profession programs that undergo periodic, stringent review by national accrediting agencies. Each professional review board uses a list of criteria to evaluate the program, which include specific markers pertinent to the goals and objectives of ViEWS. A detailed report of how the program satisfies or fails each assessment criteria follows the visit in document form, including a decision on accreditation status.

In preparation for the review board's visit, the program being appraised prepares a comprehensive report of its fulfillment of the accreditation criteria objectives and publicly exhibits a range of student projects (all years of study, high and low levels of work). This process, which includes the capture and analysis of student work throughout the entire curriculum, provides each program within the School a periodic internal outcomes assessment tool. Outcomes under assessment would include how the students are meeting learning goals in the competency areas included in ViEWS. The internal assessment occurs at regular intervals simultaneous with mandated outside evaluation. The Industrial Design program just successfully completed an accreditation review by NASAD. In the 2005-6 academic year, both the Architecture program and the Interior Design program will host accreditation committees.

The goals and objectives of the ViEWS initiative correspond with the defining foundations and curricula of the School of Architecture + Design. When our students compete with their external peers (both students and professionals) in competitions or for research funds, interview in a professional environment for a job, or apply to graduate School, the vehicle for presenting their work is through visual and written representation such as a presentation board or portfolio.

The success of our students in regional, national, and international competitions is an external measure of the outcomes of the curriculum in visual and written communication. Since the inception of the ACSA National Design competitions in the 1980's, Virginia Tech students rank 2nd in the number of 1st place entries. Other external measures of the success of our students include the number of our students accepted at the top graduate Schools and employed by leading professional firms. In the past several years our graduates have gone on to graduate study at Harvard, Yale, MIT, Columbia and Princeton. As they advance in their chosen profession, our alumni have taken leadership roles in some of the world's largest and most prestigious design firms.

Yet another external measure would be how the profession rates our students. In the 2004-2005 releases of the *Almanac of Architecture and Design* -- the only ranking system in the United States for design programs -- Virginia Tech's undergraduate architecture program was ranked in the top 10; the interior design program, 8th (2004). These rankings are based on the responses of leading design firms to the question: Which programs produce graduates most prepared for professional practice? Surveys of the profession consistently show that the ability to communicate effectively (visual / written / oral) plays a major role in the hiring and success of young designers entering the profession.

The most direct and immediate internal student outcomes assessment is conducted through each program's capstone course sequence, completed in the final year of study. Students are required to prepare and present their senior project in an oral presentation supported by written and visual documents appropriate to their project's topic and scope. They also are required to design and produce paper-based and digital presentations of their project in order to graduate. The faculty of each program meets in the spring to discuss the work of the current outgoing class in terms of the pedagogic aims of the curriculum and professional competencies.

A tangible result of the formation of the School of Architecture + Design has been the compiling of a history of its three programs. This history offers the tools discussed above, and will allow us to track the outcomes of the School's curriculum in a way not previously available. This is the first academic year of the School, and as the three programs draw strength from the re-organization, we expect to evaluate and refine these tools to more explicitly incorporate the School's *Communication across the Curriculum* goals and objectives. Several examples of ongoing development of School's curriculum include:

1. Integration of Interior Design Program into Foundation Studies (Fall 2004)
2. Implementation of Interior Design Program capstone course
3. Re-examination of the capstone project across the School

In response to the new University emphasis on written / oral / verbal communication, we propose to expand our current survey of alumni by integrating it in the website of the School of Architecture + Design. This survey would also enable us to improve the tracking of the graduate School acceptance rates of our alumni to prestigious programs of study.

Use of Resources outside of the School

Given that the goals and objectives of the ViEWS initiative correspond 1:1 with those of our current curriculum, no resources from outside of the School will be required to fulfill specific student learning objectives related to the ViEWS competency requirement.